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

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1 lakh	=	One hundred thousand
10 lakh	=	One million
1 crore	=	Ten million
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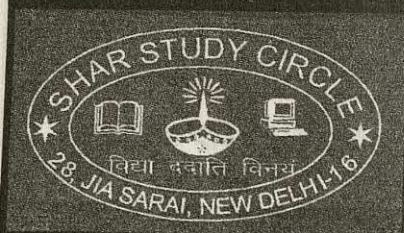
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1 Land and the People

INDIA is one of the oldest civilisations with a kaleidoscopic variety and rich cultural heritage. It has achieved multifaceted socio-economic progress during the last 54 years of its Independence. India has become self-sufficient in agricultural production and is now the tenth industrialised country in the world and the sixth nation to have gone into outer space to conquer nature for the benefit of the people. It covers an area of 32,87,263¹ sq km, extending from the snow-covered Himalayan heights to the tropical rain forests of the south. As the seventh largest country in the world, India stands apart from the rest of Asia, marked off as it is by mountains and the sea, which give the country a distinct geographical entity. Bounded by the Great Himalayas in the north, it stretches southwards and at the Tropic of Cancer, tapers off into the Indian Ocean between the Bay of Bengal on the east and the Arabian Sea on the west.

Lying entirely in the northern hemisphere, the mainland extends between latitudes 8°4' and 37°6' north, longitudes 68°7' and 97°25' east and measures about 3,214 km from north to south between the extreme latitudes and about 2,933 km from east to west between the extreme longitudes. It has a land frontier of about 15,200 km. The total length of the coastline of the mainland, Lakshadweep Islands and Andaman and Nicobar Islands, is 7,516.6 km.

PHYSICAL BACKGROUND

Countries having a common border with India are Afghanistan and Pakistan to the north-west, China, Bhutan and Nepal to the north, Myanmar to the east and Bangladesh to the east of West Bengal. Sri Lanka is separated from India by a narrow channel of sea formed by the Palk Strait and the Gulf of Mannar.

PHYSICAL FEATURES

The mainland comprises four regions, namely, the great mountain zone, plains of the Ganga and the Indus, the desert region and the southern Peninsula.

The Himalayas comprise three almost parallel ranges interspersed with large plateaus and valleys, some of which, like the Kashmir and Kullu valleys, are fertile, extensive and of great scenic beauty. Some of the highest peaks in the world are found in these ranges. The high altitudes admit travel only to a few passes, notably the Jelep La and Nathu La on the main Indo-Tibet trade route through the Chumbi Valley, north-east of Darjiling and Shipki La

¹ Provisional as on 31 March 1982

in the Satluj Valley, north-east of Kalpa (Kinnaur). The mountain wall extends over a distance of about 2,400 km with a varying depth of 240 to 320 km. In the east, between India and Myanmar and India and Bangladesh, hill ranges are much lower. Garo, Khasi, Jaintia and Naga Hills, running almost east-west, join the chain to Mizo and Rkhine Hills running north-south.

The plains of the Ganga and the Indus, about 2,400 km long and 240 to 320 km broad, are formed by basins of three distinct river systems - the Indus, the Ganga and the Brahmaputra. They are one of the world's greatest stretches of flat alluvium and also one of the most densely populated areas on the earth. Between the Yamuna at Delhi and the Bay of Bengal, nearly 1,600 km away, there is a drop of only 200 metres in elevation.

The desert region can be divided into two parts - the great desert and the little desert. The great desert extends from the edge of the Rann of Kuchch beyond the Luni river northward. The whole of the Rajasthan-Sind frontier runs through this. The little desert extends from the Luni between Jaisalmer and Jodhpur up to the northern wastes. Between the great and the little deserts lies a zone of absolutely sterile country, consisting of rocky land cut up by limestone ridges.

The Peninsular Plateau is marked off from the plains of the Ganga and the Indus by a mass of mountain and hill ranges varying from 460 to 1,220 metres in height. Prominent among these are the Aravalli, Vindhya, Satpura, Maikala and Ajanta. The Peninsula is flanked on the one side by the Eastern Ghats where average elevation is about 610 metres and on the other by the Western Ghats where it is generally from 915 to 1,220 metres, rising in places to over 2,440 metres. Between the Western Ghats and the Arabian Sea lies a narrow coastal strip, while between Eastern Ghats and the Bay of Bengal there is a broader coastal area. The southern point of plateau is formed by the Nilgiri Hills where the Eastern and the Western Ghats meet. The Cardamom Hills lying beyond may be regarded as a continuation of the Western Ghats.

GEOLOGICAL STRUCTURE

The geological regions broadly follow the physical features and may be grouped into three regions: the Himalayas and their associated group of mountains, the Indo-Ganga Plain and the Peninsular Shield.

The Himalayan mountain belt to the north and the Naga-Lushai mountain in the east, are the regions of mountain-building movement. Most of this area, now presenting some of the most magnificent mountain scenery in the world, was under marine conditions about 60 crore years ago. In a series of mountain-building movements commencing about seven crore years ago, the sediments and the basement rocks rose to great heights. The weathering and erosive agencies worked on these to produce the relief seen today. The Indo-Ganga plains are a great alluvial tract that separates the Himalayas in the north from the Peninsula in the south.

The Peninsula is a region of relative stability and rare seismic disturbances. Highly metamorphosed rocks of the earliest periods, dating back as far as 380 crore years, occur in the area; the rest being covered by the coastal-bearing Gondwana formations, lava flows belonging to the Deccan Trap formation and younger sediments.

RIVERS

Rivers in India may be classified as : (i) Himalayan rivers; (ii) Peninsular rivers; (iii) Coastal rivers and (iv) rivers of the inland drainage basin.

The Himalayan rivers are perennial as they are generally snow-fed and have reasonable flow throughout the year. During the monsoon the Himalayas receive very heavy rainfall and the rivers discharge the maximum quantity of water causing frequent floods. The Peninsular rivers are generally rain-fed and, therefore, fluctuate in volume. A large number of the streams are non-perennial. The coastal streams, especially on the west coast, are short in length and have limited catchment areas. Most of them are flashy and non-perennial. The streams of the inland drainage basin of western Rajasthan are few and far between. Most of them are of an ephemeral character. They drain towards the individual basins or salt lakes like the Sambhar or are lost in the sands having no outlet to the sea. The Luni is the only river of this category that drains into the Rann of Kuchch.

The Ganga sub-basin which is a part of the larger Ganga-Brahmaputra-Meghana basin is the largest in India receiving waters from an area which comprises about one-quarter of the total area of the country. Its boundaries are well-defined by the Himalayas in the north and the Vindhyas in the south. The Ganga flows through Uttar Pradesh, Bihar and West Bengal in India and enters Bangladesh thereafter. It has two main headwaters in the Himalayas: the Bhagirathi and the Alaknanda, the former rising from the Gangotri glacier at Gomukh and the latter from a glacier short of the Alkapuri glacier. The Ganga is joined by a number of Himalayan rivers including the Yamuna, Ghagra, Gomti, Gandak and Kosi. The western-most river of the Ganga system is the Yamuna which rises from the Yamunotri glacier and joins the Ganga at Allahabad. Among important rivers flowing north from central India into the Yamuna/Ganga are the Chambal, Betwa and Sone.

The Brahmaputra and the Barak flowing from east to west in north-eastern region are international rivers and have immense water resources potential which is still in the initial stages of development.

The Godavari in the southern Peninsula has the second largest river basin covering 10 per cent of the area of India. Next to it is the Krishna basin in the region, while the Mahanadi has the third largest basin. The basin of the Narmada in the uplands of the Deccan flowing to the Arabian Sea and of the Kaveri in the south falling into the Bay of Bengal are about the same size, though with different character and shape.

Two other river systems, which are small but agriculturally important, are those of the Tapti in the north and the Pennar in the south. These west-coast rivers are of great importance as they contain as much as 11 per cent of the country's water resources while draining about 10 per cent of the land area.

CLIMATE

The climate of India may be broadly described as tropical monsoon type. There are four seasons: (i) winter (January-February), (ii) hot weather summer (March-May); (iii) rainy south-western monsoon (June-September) and (iv) post-monsoon, also known as north-east monsoon in the southern Peninsula (October-December). India's climate is affected by two seasonal winds - the north-east monsoon and the south-west monsoon. The north-east monsoon commonly known as winter monsoon blows from land to sea whereas south-west monsoon known as summer monsoon blows from sea to land after crossing the Indian Ocean, the Arabian Sea and the Bay of Bengal. The south-west monsoon brings most of the rainfall during the year in the country. It is now possible to make forecast about the monsoon rains successfully with developed models and trained manpower.

FLORA

With a wide range of climatic conditions from the torrid to the arctic, India has a rich and varied vegetation, which only a few countries of comparable size possess. India can be divided into eight distinct-floristic-regions, namely, the western Himalayas, the eastern Himalayas, Assam, the Indus plain, the Ganga plain, the Deccan, Malabar and the Andamans.

The Western Himalayan region extends from Kashmir to Kumaon. Its temperate zone is rich in forests of *chir*, pine, other conifers and broad-leaved temperate trees. Higher up, forests of *deodar*, blue pine, spruce and silver fir occur. The alpine zone extends from the upper limit of the temperate zone of about 4,750 metres or even higher. The characteristic trees of this zone are high-level silver fir, silver birch and junipers. The eastern Himalayan region extends from Sikkim eastwards and embraces Darjiling, Kurseong and the adjacent tract. The temperate zone has forests of oaks, laurels, maples, rhododendrons, alder and birch. Many conifers, junipers and dwarf willows also occur here. The Assam region comprises the Brahmaputra and the Surma valleys with evergreen forests, occasional thick clumps of bamboos and tall grasses. The Indus plain region comprises the plains of Punjab, western Rajasthan and northern Gujarat. It is dry and hot and supports natural vegetation. The Ganga plain region covers the area which is alluvial plain and is under cultivation for wheat, sugarcane and rice. Only small areas support forests of widely differing types. The Deccan region comprises the entire table land of the Indian Peninsula and supports vegetation of various

kinds from scrub jungles to mixed deciduous forests. The Malabar region covers the excessively humid belt of mountain country parallel to the west coast of the Peninsula. Besides being rich in forest vegetation, this region produces important commercial crops, such as coconut, betelnut, pepper, coffee and tea, rubber and cashewnut. The Andaman region abounds in evergreen, mangrove, beach and diluvial forests. The Himalayan region extending from Kashmir to Arunachal Pradesh through Nepal, Sikkim, Bhutan, Meghalaya and Nagaland and the Deccan Peninsula is rich in endemic flora, with a large number of plants which are not found elsewhere.

India is rich in flora. Currently available data place India in the tenth position in the world and fourth in Asia in plant diversity. From about 70 per cent geographical area surveyed so far, 47,000 species of plants have been described by the Botanical Survey of India. The vascular flora, which forms the conspicuous vegetation cover comprises 15,000 species. Of these, more than 35 per cent is endemic and has so far not been reported anywhere in the world. The total plant wealth of the country includes not only the useful large flowered plants including flowering shrubs, but also a large number of non-flowering plants like ferns, liverworts, algae and fungi.

The flora of the country is being studied by the Botanical Survey of India (BSI), Kolkata and its nine circle/field offices located throughout the country along with certain universities and research institutions. The publication *Flora of India* in the form of fascicles has been initiated by BSI and 20 fascicles have already been published. BSI also brings out publications on the state and district flora, both flowering and non-flowering, from time to time.

Ethnobotanical study deals with the utilisation of plants and plant products by ethnic races. A scientific study of such plants has been made by BSI. A number of detailed ethnobotanical explorations have been conducted in different tribal areas of the country. More than 800 plant species of ethnobotanical interest have been collected and identified at different centres.

Owing to destruction of forests for agricultural, industrial and urban development, several Indian plants are facing extinction. About 1,336 plant species are considered vulnerable and endangered. About 20 species of higher plants are categorised as possibly extinct as these have not been sighted during the last 6-10 decades. BSI brings out an inventory of endangered plants in the form of a publication titled *Red Data Book*. Four volumes of the book have already been published and the fifth is being compiled. Samples of some of these plants are preserved in botanical gardens and national parks. Collections of dried samples of these plants are preserved in the Central National Herbarium, the regional herbaria of BSI and in research and training institutions of the country.

FAUNA

The Zoological Survey of India (ZSI), with its headquarters in Kolkata and 16 regional stations located in different parts of the country, is responsible for surveying the faunal resources of our country. Possessing a tremendous diversity of climate and physical conditions, India has great variety of fauna numbering 89,451 species. Of these, protista number 2,577, mollusca 5,070, anthropoda 68,389, amphibia 209, mammalia 390, reptilia 456, members of protochordata 119, pisces 2,546, aves 1,232 and other invertebrates 8,329.

The mammals include the majestic elephant, the *gaur* or Indian bison—the largest of existing bovines, the great Indian rhinoceros, the gigantic wild sheep of the Himalayas, the swamp deer, the thamin spotted deer, *nilgai*, the four-horned antelope, the Indian antelope or black-buck - the only representatives of these genera. Among the cats, the tiger and lion are the most magnificent of all; other splendid creatures such as the clouded leopard, the snow leopard, the marbled cat, etc., are also found. Many other species of mammals are remarkable for their beauty, colouring, grace and uniqueness. The abundant and colourful life of this country is one of its treasures. Several birds, like pheasants, geese, ducks, *mynahs*, parakeets, pigeons, cranes, hornbills and sunbirds, inhabit forests and wet lands.

Rivers and lakes harbour crocodiles and *gharials*, the latter being the only representative of crocodilian order in the world. The salt water crocodile is found along the eastern coast and in the Andaman and Nicobar Islands. A project for breeding crocodiles started in 1974, has been instrumental in saving the crocodile from extinction. Twelve schemes are in operation in different states for breeding crocodiles.

The great Himalayan range has a very interesting variety of fauna that includes the wild sheep and goats, markhor, ibex, shrew and tapir. The panda and the snow leopard are found in the upper reaches of the mountains.

Depletion of vegetative cover due to expansion of agriculture, habitat destruction, over-exploitation, pollution, introduction of toxic imbalance in community structure, epidemics, floods, droughts and cyclones, contribute to the loss of flora and fauna. More than 39 species of mammals, 72 species of birds, 17 species of reptiles, three species of amphibians, two species of fish and a large number of butterflies, moth and beetles are considered vulnerable and endangered.

There are presently 88 national parks and 490 wildlife sanctuaries covering 1.53 lakh sq km area of the country.

DEMOGRAPHIC BACKGROUND

CENSUS

The Census of India 2001, is historic and epoch making being the first census

of the twenty-first century and the third millennium. It will reveal benchmark data on the state of abundant human resources inhabiting our country, their demography, culture and economic structure at a juncture, which marks a centennial and millennial transition.

The population enumeration of 2001 census was undertaken during 9-28 February 2001 with a revisional round from 1-5 March 2001. The Census moment, the referral time at which the snapshot of the population is taken was 00.00 hours of the 1 March 2001. Until the 1991 Census, the sunrise of 1 March was taken to be the census moment. The houseless population, as has been the usual practice was enumerated on the night of 28 February 2001.

POPULATION

India's population as on 1 March 2001 stood at 1,027 million (531.3 million males and 495.7 million females). India accounts for a meagre 2.4 per cent of the world surface area of 135.79 million sq km yet it supports and sustains a whopping 16.7 per cent of the world population. In 1950, China with 22 per cent share of the world population led the scene followed by India, which had a share of 14.2 per cent.

The population of India, which at the turn of the twentieth century, was around 238.4 million increased to reach 1,027 million at the dawn of the twenty-first century. The population of India as recorded at each decennial census from 1901 has grown steadily except for a decrease during 1911-21. Decadal growth of population from 1901 is shown in table 1.1.

Table 1.2 gives the selected indicators of population growth in different States and Union Territories. The per cent decadal growth of population in the inter-censal period 1991-2001 varies from a low of 9.42 in Kerala to a very high 64.41 in Nagaland. Delhi with 46.31 per cent, Chandigarh with 40.33 per cent and Sikkim with 32.98 per cent registered very high growth rates. In addition to Kerala, Tamil Nadu and Andhra Pradesh registered low growth rates during 1991-2001. The per cent decadal growth rate has declined during the census decade 1991-2001 as compared to the previous census decade in all the States/Union Territories except Haryana, Uttar Pradesh, Bihar, Sikkim, Nagaland, Manipur, Gujarat, Daman & Diu and Dadra & Nagar Haveli. The States and Union Territories that have shown increases in per cent decadal growth together constitute about 32 per cent of India's population.

POPULATION DENSITY

One of the important indices of population concentration is the density of population. It is defined as the number of persons per square kilometre. The population density of India in 2001 is 324 per square kilometre.

The density of population has increased in all States and Union Territories between 1991 and 2001. Among major states, West Bengal is still the most thickly populated state with a population density of 904 in 2001. Bihar is now the second highest densely populated state pushing Kerala to the third place. Ranking of the States and Union Territories by density is shown in table 1.3.

SEX RATIO

Sex ratio, defined as the number of females per thousand males is an important social indicator to measure the extent of prevailing equality between males and females in a society at a given point of time. The sex ratio in the country had always remained unfavourable to females. Moreover, barring some hiccups, it has shown a long term declining trend. The sex ratio at the beginning of the twentieth century was 972 and thereafter showed continuous decline until 1941. In 1951 there was a marginal increase of one point, but thereafter it again dropped for two consecutive decades to reach 930 in 1971. Thereafter, it has fluctuated marginally around 930 in successive censuses. Sex ratio (1901-2001) is given in table 1.4.

LITERACY

For the purpose of census 2001, a person aged seven and above, who can both read and write with understanding in any language, is treated as literate. A person, who can only read but cannot write, is not literate. In the censuses prior to 1991, children below five years of age were necessarily treated as illiterates.

The provisional results of 2001 reveal that there has been an increase in literacy in the country. The literacy rate in the country is 65.38 per cent (75.85 for males and 54.16 for females). The steady improvement in literacy is apparent from the table 1.5.

Kerala retained its position by being on top with a 90.92 per cent literacy rate, closely followed by Mizoram (85.99 per cent) and Lakshadweep (87.52 per cent). Bihar with a literacy rate of 47.53 per cent ranks last in the country preceded by Jharkhand (54.13 per cent) and Jammu & Kashmir (54.46 per cent). Kerala also occupies the top spot in the country both in male literacy with 94.20 per cent and female literacy with 87.86 per cent. On the contrary, Bihar has recorded the lowest literacy rates both in case of males (60.32 per cent) and females (33.57 per cent). Table 1.6 shows the literacy rate among persons, males and females in a States and UTs, and their ranking.

For tables 1.7 to 1.13, there is no published data for 2001 census, which is yet to be processed.

TABLE 1.1: POPULATION 1901-2001

Census years	Population	Decadal Growth		Change in decadal growth		Average annual exponential growth rate (per cent)		Progressive growth rate over 1901 (per cent)
		Absolute	Per cent	Absolute	Per cent			
1	2	3	4	5	6	7	8	
1901	23,83,96,327	-	-	-	-	-	-	-
1911	25,20,93,390	1,36,97,063	5.75	-	-	0.56	5.75	5.75
1921	25,13,21,213	-7,72,177	-0.31	-1,44,69,240	-6.05	-0.03	5.42	5.42
1931	27,89,77,238	2,76,56,025	11.00	2,84,28,202	11.31	1.04	17.02	17.02
1941	31,86,60,580	3,96,83,342	14.22	1,20,27,317	3.22	1.33	33.67	33.67
1951 ¹	36,10,88,090	4,24,27,510	13.31	27,44,168	-0.91	1.25	51.47	51.47
1961 ¹	43,92,34,771	7,81,46,681	21.64	3,57,19,171	8.33	1.96	84.25	84.25
1971	54,81,59,652	10,89,24,881	24.80	3,07,78,200	3.16	2.20	129.94	129.94
1981 ²	68,33,29,097	13,51,69,445	24.66	2,62,44,564	-0.14	2.22	186.64	186.64
1991 ³	84,33,87,888	16,30,58,791	23.86	2,78,89,346	-0.80	2.14	255.03	255.03
2001 ⁴	1,02,70,15,247	18,06,27,359	21.34	1,75,68,568	-2.52	1.93	330.80	330.80

Source : Provisional Population Totals, Paper - 1 of 2001, Series - 1, Census of India, 2001.

Notes :

1. In working out 'Decadal Growth' and 'Percentage Decadal Growth' for India 1941-51 and 1951-61 the population of Tuensang district for 1951 (7,025) and the population of Tuensang (83,501) and Mon (5,774) districts for 1961 Census of Nagaland state have not been taken into account as the areas were censused for the first time in 1951 and the same are not comparable.
2. The 1981 Census could not be held owing to disturbances in Assam. Hence the population figures for 1981 of Assam have been worked out by 'interpolation'.
3. The 1991 Census could not be held owing to disturbances in Jammu and Kashmir. Hence the population figures for 1991 of Jammu and Kashmir have been worked out by 'interpolation'.
4. The population of India includes the estimated population of Kachchh district, Morvi, Maliya-Miyana and Wankner talukas of Rajkot district, Jodiya taluka of Jamnagar district of Gujarat and entire Kinnar district of Himachal Pradesh where population enumeration of Census of India, 2001 could not be conducted due to natural calamities.

TABLE 1.2 : STATES AND UNION TERRITORIES BY POPULATION SIZE

Rank in 2001	State/ Union Territory*	Population 2001	Per cent to total Population of India		Rank in 1991
			2001	1991	
1	2	3	4	5	6
1.	Uttar Pradesh	16,60,52,859	16.17	15.60	1
2.	Maharashtra	9,67,52,247	9.42	9.33	2
3.	Bihar	8,28,78,796	8.07	7.62	5
4.	West Bengal	8,02,21,171	7.81	8.04	3
5.	Andhra Pradesh	7,57,27,541	7.37	7.86	4
6.	Tamil Nadu	6,21,10,839	6.05	6.59	6
7.	Madhya Pradesh	6,03,85,118	5.88	5.74	7
8.	Rajasthan	5,64,73,122	5.50	5.20	9
9.	Karnataka	5,27,33,958	5.14	5.31	8
10.	Gujarat ¹	5,05,96,992	4.93	4.88	10
11.	Orissa	3,67,06,920	3.57	3.74	11
12.	Kerala	3,18,38,619	3.10	3.44	12
13.	Jharkhand	2,69,09,428	2.62	2.58	14
14.	Assam	2,66,38,407	2.59	2.64	13
15.	Punjab	2,42,89,296	2.37	2.40	15
16.	Haryana	2,10,82,989	2.05	1.95	17
17.	Chhattisgarh	2,07,95,956	2.03	2.08	16
18.	Delhi*	1,37,82,976	1.34	1.11	18
19.	Jammu & Kashmir ²	1,00,69,917	0.98	0.92	19
20.	Uttaranchal	84,79,562	0.83	0.84	20
21.	Himachal Pradesh	60,77,248	0.59	0.61	21
22.	Tripura	31,91,168	0.31	0.33	22
23.	Manipur	23,88,634	0.23	0.23	23
24.	Meghalaya	23,06,069	0.22	0.21	24
25.	Nagaland	19,88,636	0.19	0.14	25
26.	Goa	13,43,998	0.13	0.14	26
27.	Arunachal Pradesh	10,91,117	0.11	0.10	27
28.	Pondicherry*	9,73,829	0.09	0.10	28
29.	Chandigarh*	9,00,914	0.09	0.08	30
30.	Mizoram	8,91,058	0.09	0.08	29
31.	Sikkim	5,40,493	0.05	0.05	31
32.	Andaman & Nicobar Islands*	3,56,265	0.03	0.03	32
33.	Dadra & Nagar Haveli*	2,20,451	0.02	0.02	33
34.	Daman & Diu*	1,58,059	0.02	0.01	34
35.	Lakshadweep*	60,595	0.01	0.01	35

Source : Provisional Population Totals, Paper - 1 of 2001, Series - 1, Census of India, 2001.

Notes :

- ¹ The population of India includes the estimated population of Kachchh district, Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district, Jodiya taluka of Jamnagar district of Gujarat and entire Kinnaur district of Himachal Pradesh

where population enumeration of Census of India, 2001 could not be conducted due to natural calamities.

- ² The 1991 Census could not be held owing to disturbances in Jammu and Kashmir. Hence the population figures for 1991 of Jammu and Kashmir have been worked out by 'interpolation'.

TABLE 1.3 : STATES AND UNION TERRITORIES BY DENSITY 1991 AND 2001

Rank in 2001	State/ Union Territory*	Density		Rank in 1991
		2001	1991	
1.	Delhi*	9,294	6,352	1
2.	Chandigarh*	7,903	5,632	2
3.	Pondicherry*	2,029	1,683	3
4.	Lakshadweep*	1,894	1,616	4
5.	Daman and Diu*	1,411	907	5
6.	West Bengal	904	767	6
7.	Bihar	880	685	8
8.	Kerala	819	749	7
9.	Uttar Pradesh	689	548	9
10.	Punjab	482	403	11
11.	Tamil Nadu	478	429	10
12.	Haryana	477	372	12
13.	Dadra and Nagar Haveli*	449	282	15
14.	Goa	363	316	13
15.	Assam	340	286	14
16.	Jharkhand	338	274	16
17.	Maharashtra	314	257	18
18.	Tripura	304	263	17
19.	Andhra Pradesh	275	242	19
20.	Karnataka	275	235	20
21.	Gujarat	258	211	21
22.	Orissa	236	203	22
23.	Madhya Pradesh	196	158	23
24.	Rajasthan	165	129	26
25.	Uttaranchal	159	133	24
26.	Chhattisgarh	154	130	25
27.	Nagaland	120	73	31
28.	Himachal Pradesh	109	93	27
29.	Manipur	107	82	28
30.	Meghalaya	103	79	29
31.	Jammu & Kashmir	99	74	30
32.	Sikkim	76	57	32
33.	Andaman & Nicobar Islands*	43	34	33
34.	Mizoram	42	33	34
35.	Arunachal Pradesh	13	10	35

Source: Provisional Population Totals, Paper—1 of 2001, Series-1, Census of India, 2001.

Notes :

- ¹ The 1991 Census could not be held owing to disturbances in Jammu and Kashmir.

Hence the population figures for 1991 of Jammu and Kashmir have been worked out by 'interpolation'.

- ² The population of India includes the estimated population of Kachchh district, Morvi, Maliya-Miyana and Wankaner *talukas* of Rajkot district, Jodiya *taluka* of Jamnagar district of Gujarat and entire Kinnaur district of Himachal Pradesh where population enumeration of Census of India, 2001 could not be conducted due to natural calamities.

TABLE 1.4 : SEX RATIO : 1901-2001

Census Year	Sex ratio (females per 1,000 males)
1901	972
1911	964
1921	955
1931	950
1941	945
1951	946
1961	941
1971	930
1981	934
1991	927
2001	933

Source : Provisional Population Totals, Paper--1 of 2001, Series-1, Census of India, 2001.

Notes :

1. For 1991, the interpolated figures for Jammu & Kashmir have been used.
2. While working out the sex ratio for India for the year 2001, the estimated population of entire Kachchh district, Morvi, Maliya-Miyana and Wankaner *talukas* of Rajkot district, Jodiya *taluka* of Jamnagar district of Gujarat and entire Kinnaur district of Himachal Pradesh have been used as the population enumeration of Census of India, 2001 could not be conducted in these areas due to natural calamities.

TABLE 1.5 : LITERACY RATE : 1951-2001

Census Year	Persons	Males	Females
1951	18.33	27.16	8.86
1961	28.30	40.40	15.35
1971	34.45	45.96	21.97
1981	43.57	56.38	29.76
1991	52.21	64.13	39.29
2001	65.38	75.85	54.16

Source : Provisional Population Totals, Paper--1 of 2001, Series-1, Census of India, 2001.

Notes :

- ¹ Literacy rates for 1951, 1961 and 1971 Census relate to population aged five years and above. The rates for the 1981, 1991 and 2001 Census relate to the population aged seven years and above.

TABLE 1.6: RANKING OF STATES/UTs BY LITERACY RATE AMONG PERSONS, MALES AND FEMALES, 2001

Rank	State/ Union Territory*	Persons		Males		Females	
		Literacy rate	State/ Union Territory*	Literacy rate	State/ Union Territory*	Literacy rate	State/ Union Territory*
1	2	3	4	5	6	7	
1.	Kerala	90.92	Kerala	94.20	Kerala	87.86	
2.	Mizoram	88.49	Lakshadweep*	93.15	Mizoram	86.13	
3.	Lakshadweep*	87.52	Mizoram	90.69	Lakshadweep*	81.56	
4.	Goa	82.32	Pondicherry*	88.89	Chandigarh*	76.65	
5.	Delhi*	81.82	Goa	88.88	Goa	75.51	
6.	Chandigarh*	81.76	Daman & Diu*	88.40	Andaman & Nicobar Islands*	75.29	
7.	Pondicherry*	81.49	Delhi*	87.37	Delhi*	75.00	
8.	Andaman & Nicobar Islands*	81.18	Maharashtra	86.27	Pondicherry*	74.13	
9.	Daman & Diu*	81.09	Andaman & Nicobar Islands*	86.07	Daman & Diu*	70.37	
10.	Maharashtra	77.27	Himachal Pradesh	86.02	Himachal Pradesh	68.08	
11.	Himachal Pradesh*	77.13	Chandigarh*	85.65	Maharashtra	67.51	
12.	Tripura	73.66	Uttaranchal	84.01	Tripura	65.41	
13.	Tamil Nadu	73.47	Tamil Nadu	82.33	Tamil Nadu	64.55	
14.	Uttaranchal	72.28	Tripura	81.47	Punjab	63.55	
15.	Gujarat ³	69.97	Gujarat	80.50	Nagaland	61.92	
16.	Punjab	69.95	Haryana	79.25	Sikkim	61.46	
17.	Sikkim	69.68	Manipur	77.87	Meghalaya	60.41	
18.	West Bengal	69.22	Chhattisgarh	77.86	Uttaranchal	60.26	
19.	Manipur	68.87	West Bengal	77.58	West Bengal	60.22	
20.	Haryana	68.59	Madhya Pradesh	76.80	Manipur	59.70	

1	2	3	4	5	6	7
21.	Nagaland	67.11	Sikkim	76.73	Gujarat	58.60
22.	Karnataka	67.04	Rajasthan	76.46	Karnataka	57.45
	INDIA ¹	65.38	Karnataka	76.29	Haryana	56.31
23.	Chhattisgarh	65.18	Orissa	75.95	Assam	56.03
24.	Assam	64.28	INDIA	75.85	INDIA	54.16
25.	Madhya Pradesh	64.11	Punjab	75.63	Chhattisgarh	52.40
26.	Orissa	63.61	Dadra & Nagar Haveli*	73.32	Andhra Pradesh	51.17
27.	Meghalaya	63.31	Assam	71.93	Orissa	50.97
28.	Andhra Pradesh	61.11	Nagaland	71.77	Madhya Pradesh	50.28
29.	Rajasthan	61.03	Andhra Pradesh	70.85	Rajasthan	44.34
30.	Dadra & Nagar Haveli*	60.03	Uttar Pradesh	70.23	Arunachal Pradesh	44.24
31.	Uttar Pradesh	57.36	Jharkhand	67.94	Dadra & Nagar Haveli*	42.99
32.	Arunachal Pradesh	54.74	Meghalaya	66.14	Uttar Pradesh	42.98
33.	Jammu & Kashmir	54.46	Jammu & Kashmir	65.75	Jammu & Kashmir	41.82
34.	Jharkhand	54.13	Arunachal Pradesh	64.07	Jharkhand	39.38
35.	Bihar	47.53	Bihar	60.32	Bihar	33.57

Source : Provisional Population Totals, Paper-1 of 2001, Series-1, Census of India, 2001.

Notes :

1. The Literacy rates for India have been worked out by excluding entire Kachchh district, Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district, Jodiya taluka of Jamnagar district of Gujarat and entire Kinnaur district of Himachal Pradesh where population enumeration of Census of India, 2001, could not be conducted due to natural calamities.
2. The Literacy rates for Himachal Pradesh have been worked out by excluding entire Kinnaur district as population enumeration of Census of India, 2001, could not be conducted there due to natural calamity.
3. The literacy rates for Gujarat have been worked out by excluding entire Kachchh district, Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district, Jodiya taluka of Jamnagar district of Gujarat where population enumeration of Census of India, 2001, could not be conducted due to natural calamity.

- ² The 1981 Literacy rates exclude Assam where the 1981 Census could not be conducted. The 1991 Census Literacy rates exclude Jammu & Kashmir where the 1991 Census could not be conducted due to disturbances.
- ³ The 2001 Census, literacy rates exclude entire Kachchh district, Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district, Jodiya taluka of Jamnagar district of Gujarat and entire Kinrāur district of Himachal Pradesh where population enumeration of Census of India, 2001, could not be conducted due to natural calamities.

TABLE 1.7: TOTAL POPULATION AND PERCENTAGE OF
SCHEDULED CASTE AND SCHEDULED TRIBE 1991

Sl. No.	India/State or Union Territory	Total Population ('000)	Scheduled Caste Population ('000)	Percentage of total population	Scheduled Tribe Population ('000)	Percentage of total population
1	2	3	4	5	6	7
	INDIA ¹	8,38,584	1,38,223	16.48	67,758	8.08
STATES						
1.	Andhra Pradesh	66,508	10,592	15.93	4,199	6.31
2.	Arunachal Pradesh	865	4	0.47	550	63.66
3.	Assam	22,414	1,659	7.40	2,874	12.82
4.	Bihar	86,374	12,572	14.56	6,617	7.66
5.	Goa	1,170	24	2.08	-	0.03
6.	Gujarat	41,310	3,060	7.41	6,162	14.92
7.	Haryana	16,464	3,251	19.75	-	-
8.	Himachal Pradesh	5,171	1,310	25.34	218	4.22
9.	Karnataka	44,977	7,369	16.38	1,916	4.26
10.	Kerala	29,099	2,887	9.92	321	1.10
11.	Madhya Pradesh	66,181	9,627	14.54	15,399	23.27
12.	Maharashtra	78,937	8,758	11.10	7,318	9.27
13.	Manipur	1,837	37	2.02	632	34.41
14.	Meghalaya	1,775	9	0.51	1,518	85.53
15.	Mizoram	690	1	0.10	654	94.75
16.	Nagaland	1,210	-	-	1,061	87.70
17.	Orissa	31,660	5,129	16.20	7,032	22.21
18.	Punjab	20,282	5,743	28.31	-	-
19.	Rajasthan	44,006	7,608	17.29	5,475	12.44
20.	Sikkim	406	24	5.93	91	22.36
21.	Tamil Nadu	55,859	10,712	19.18	574	1.03
22.	Tripura	2,757	451	16.36	853	30.95
23.	Uttar Pradesh	1,39,112	29,276	21.05	288	0.21
24.	West Bengal	68,078	16,081	23.62	3,809	5.60
UNION TERRITORIES						
1.	Andaman and Nicobar Islands	281	-	-	27	9.54
2.	Chandigarh	642	106	16.51	-	-
3.	Dadra and Nagar Haveli	138	3	1.97	109	78.99
4.	Daman and Diu	102	4	3.83	12	11.54
5.	Delhi	9,421	1,795	19.05	-	-
6.	Lakshadweep	52	-	-	48	93.15
7.	Pondicherry	808	131	16.25	-	-

¹ Excludes figures of Jammu & Kashmir where 1991 census was not taken.

TABLE 1.8 : RURAL AND URBAN POPULATION : 1901 - 1991

Census Year	Population (Million)		Percentage of total population	
	Rural	Urban	Rural	Urban
1901	213	26	89.2	10.8
1911	226	26	89.7	10.3
1921	223	28	88.8	11.2
1931	246	33	88.0	12.0
1941	275	44	86.1	13.9
1951	299	62	82.7	17.3
1961	360	79	82.0	18.0
1971	439	109	80.1	19.9
1981 ¹	524	159	76.7	23.3
1991 ²	629	218	74.3	25.7

Source: Census of India 1991, Series 1, India, Paper 2 of 1992. Final Population Totals.

¹ The 1991 census could not be held in Assam. The figures for 1981 for Assam have been worked out by interpolation.

² Includes projected population of Jammu and Kashmir.

TABLE 1.9 : GROWTH OF URBANISATION BY CLASS OF TOWNS

Class of town		Population in '000s					
		1901	1951	1961	1971	1981	1991
I	1,00,000 and above	5,570	23,483	34,736	52,808	82,227	1,22,291
II	50,000 - 99,999	2,948	7,548	9,530	14,712	22,037	28,764
III	20,000 - 49,999	4,346	11,115	15,728	19,865	26,719	35,273
IV	10,000 - 19,999	5,847	9,331	11,241	13,929	17,588	21,079
V	5,000 - 9,999	5,332	8,463	6,304	6,089	6,788	7,397
VI	Less than 5,000	1,650	2,047	805	853	1,062	967
All classes		25,693	61,987	78,343	1,08,256	1,56,420	2,15,772
Urban population as percentage to total Population ¹		10.84	17.29	19.97	19.91	23.34	25.72

Source : Part II-A(ii) - A-Series - Towns & Urban Agglomerations 1991 with their Populations 1901-1991 - Table A-4.

Notes :

Excludes figures for Jammu & Kashmir in 1991 where 1991 Census was not conducted owing to disturbances. For comparative purposes the figures of J&K have also been excluded for 1901 to 1981.

Excludes figures for Assam in 1981 where census of 1981 was not held.

¹Data includes Jammu & Kashmir and Assam.

TABLE 1.10 : DISTRIBUTION OF VILLAGES
ACCORDING TO POPULATION : 1991

Sl. No.	States/UTs	Less than 1,000	1,000 to 1,999	2,000 to 4,999	5,000 to 9,999	10,000 and over	Total
1	2	3	4	5	6	7	8
	INDIA ¹⁺²	3,90,093	1,14,395	62,915	10,597	2,779	5,80,781 ³
1.	Andhra Pradesh	11,856	6,433	6,510	1,474	313	26,586
2.	Arunachal Pradesh	3,538	82	25	3	1	3,649
3.	Assam	17,784	4,988	1,793	111	9	24,685
4.	Bihar	45,164	12,768	7,647	1,604	330	67,513
5.	Goa	156	78	94	31	1	360
6.	Gujarat	8,528	5,432	3,418	575	75	18,028
7.	Haryana	2,627	2,021	1,703	364	44	6,759
8.	Himachal Pradesh	16,361	495	136	5	-	16,997
9.	Karnataka	17,113	5,861	3,422	570	100	27,066
10.	Kerala	7	16	102	252	1,007	1,384
11.	Madhya Pradesh	56,568	11,426	3,264	261	7	71,526
12.	Maharashtra	24,111	10,632	4,715	762	192	40,412
13.	Manipur	1,834	192	135	16	3	2,182 ³
14.	Meghalaya	5,316	129	38	1	-	5,484
15.	Mizoram	616	61	19	2	-	698
16.	Nagaland	929	170	108	8	1	1,216
17.	Orissa	39,309	5,761	1,812	103	4	46,989
18.	Punjab	7,447	3,130	1,628	209	14	12,428
19.	Rajasthan	27,123	7,060	3,255	420	31	37,889
20.	Sikkim	336	79	29	3	-	447
21.	Tamil Nadu	4,915	4,625	4,764	1,247	271	15,822
22.	Tripura	195	203	348	94	15	855
23.	Uttar Pradesh	74,866	24,523	11,949	1,336	129	1,12,803
24.	West Bengal	22,701	8,065	5,819	1,117	208	37,910
25.	A & N Islands	445	44	15	-	-	504
26.	Chandigarh	7	6	8	3	1	25
27.	D & N Haveli	27	17	25	1	1	71
28.	Daman & Diu	9	6	6	2	1	24
29.	Delhi	29	44	86	19	21	199
30.	Lakshadweep	2	-	4	1	-	7
31.	Pondicherry	174	48	38	3	-	263

¹ Excludes the population of Jammu & Kashmir where the 1991 census could not be conducted due to disturbances.

² The population figures exclude population of areas under unlawful occupation of Pakistan & China where census could not be taken.

³ As separate population figures of the following villages are not available, the villages have been excluded from the range classification. However, the villages with which they are enumerated are included in the range classification.

Name of village	Enumerated with	Sub-division	District
1. Phaijol	Soraland	Sadar Hills East	Senapati
2. Kamarangkha Kuki	Phaitol	Tamenglong West	Tamenglong

TABLE 1.11 : POPULATION OF MILLION PLUS CITIES

Sl. No.	City	Population in '000s			Growth ratio		Sex ratio		Literacy rate	
		1991	1981	1951	1991	1981	1991	1981	1991	1981
1.	Kolkata	11,022	9,194	4,670	2.36	1.97	830	781	77	65
2.	Greater Mumbai	12,596	8,243	2,967	4.25	2.78	828	772	82	68
3.	Delhi	8,419	5,729	1,437	5.86	3.99	830	808	76	63
4.	Chennai	5,422	4,289	1,542	3.52	2.78	933	930	81	67
5.	Bangalore	4,130	2,922	786	5.25	3.72	902	896	79	64
6.	Hyderabad	4,344	2,546	1,131	3.84	2.25	920	919	71	58
7.	Ahmedabad	3,312	2,548	877	3.78	2.91	889	869	80	63
8.	Kanpur	2,030	1,639	705	2.88	2.32	822	804	72	55
9.	Pune	2,494	1,686	609	4.09	2.77	903	880	81	67
10.	Nagpur	1,664	1,302	485	3.43	2.68	915	910	82	66
11.	Lucknow	1,669	1,008	497	3.36	2.03	871	832	71	58
12.	Jaipur	1,518	1,015	304	4.99	3.34	868	861	70	54
13.	Surat	1,519	924	237	6.41	3.90	828	840	76	60
14.	Kochi	1,141	825	212	5.38	3.89	997	989	94	79
15.	Vadodara	1,127	782	211	5.34	3.71	899	888	82	68
16.	Indore	1,109	829	311	3.57	2.67	900	885	77	61
17.	Coimbatore	1,101	920	287	3.84	3.21	930	924	80	67
18.	Patna	1,100	919	326	3.37	2.82	829	815	77	58
19.	Madurai	1,086	907	371	2.93	2.44	954	952	82	68
20.	Bhopal	1,063	671	102	10.42	6.58	894	870	72	57
21.	Visakhapatnam	1,057	604	108	9.79	5.59	937	933	72	56
22.	Ludhiana	1,043	607	154	6.77	3.94	795	815	72	62
23.	Varanasi	1,031	797	370	2.79	2.15	861	842	64	47

Source : Paper 2. 1991, Final Population Total.

TABLE 1.12 : POPULATION BY RELIGION

Religious group	1961 ³		1971		1981		1991	
	Number (million)	Per cent to total	Number (million)	Per cent to total	Number (million)	Per cent to total	Number (million)	Per cent to total
Hindus	366.5	83.5	453.4	82.7	549.7	82.6	672.6	82.41
Muslims	46.9	10.7	61.4	11.2	75.6	11.4	95.2	11.67
Christians	10.7	2.4	14.3	2.6	16.2	2.4	18.9	2.32
Sikhs	7.8	1.8	10.4	1.9	13.1	2.0	16.3	1.99
Buddhists	3.2	0.7	3.9	0.7	4.7	0.7	6.3	0.77
Jains	2.0	0.5	2.6	0.5	3.2	0.5	3.4	0.41
Other ¹	1.6	0.4	2.2	0.4	2.8	0.4	3.5	0.43
Total	439.2	100.0	548.2	100.0	665.3	100.0	816.2 ²	100.00

Source : (i) Census of India, Series I, India, Part II c (i), (ii) Census of India 1981, Series I, Paper 3 of 1984 (Religion), (iii) Census of India, Series I, Paper 1 of 1995 (Religion)

¹ Including unclassified persons

² Excludes Assam and J & K

³ Excludes Mizo district, now constituted of U.T. of Mizoram

Note: 1981 data do not include Assam.

TABLE 1.13 : COMPARATIVE STRENGTHS OF SCHEDULED LANGUAGES

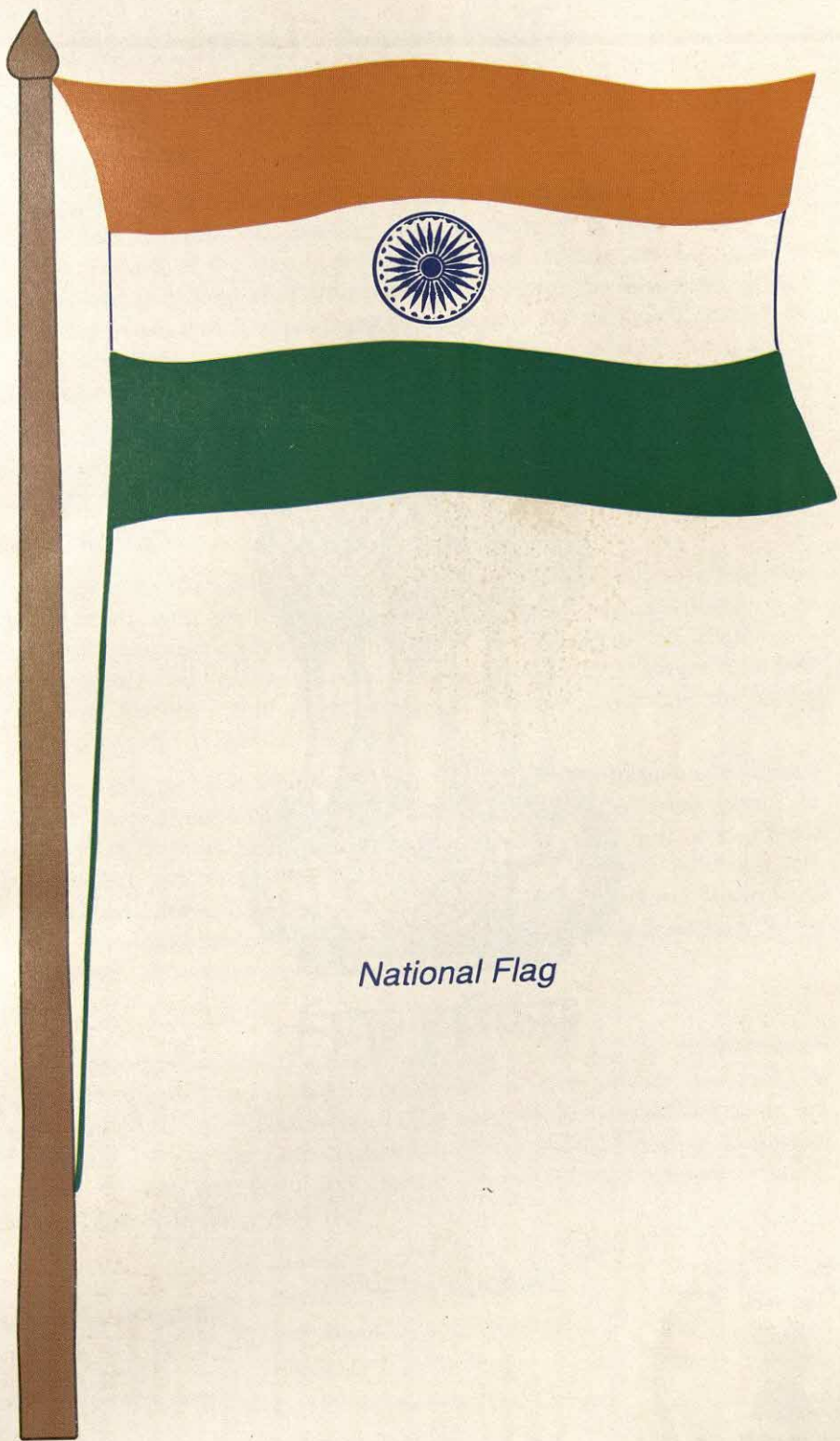
Language	Persons who returned the language as their mother tongue			Percentage to total population		
	1971	1981	1991	1971	1981 ¹	1991
1. Hindi	20,85,14,005	26,45,14,117	33,72,72,114	38.04	38.71	39.85
2. Bengali	4,47,92,312	5,12,98,319	6,95,95,738	8.17	7.51	8.22
3. Telugu	4,47,56,923	5,06,24,611	6,60,17,615	8.16	7.41	7.80
4. Marathi	4,17,65,190	4,94,52,922	6,24,81,681	7.62	7.24	7.38
5. Tamil	3,76,90,106	N.A. ²	5,30,06,368	6.88	N.A. ²	6.26
6. Urdu	2,86,20,895	3,49,41,435	4,34,06,932	5.22	5.11	5.13
7. Gujarati	2,58,65,012	3,30,63,267	4,06,73,814	4.72	4.84	4.81
8. Kannada	2,17,10,649	2,56,97,146	3,27,53,676	3.96	3.76	3.87
9. Malayalam	2,19,38,760	2,57,00,705	3,03,77,176	4.00	3.76	3.59
10. Oriya	1,98,63,198	2,30,21,528	2,80,61,313	3.62	3.37	3.32
11. Punjabi	1,41,08,443	1,96,11,199	2,33,78,744	2.57	2.87	2.76
12. Assamese	89,59,558	N.A. ³	1,30,79,696	1.63	N.A. ³	1.55

13.	Sindhi	16,76,875	20,44,389	21,22,848	0.31	0.30	0.25
14.	Nepali	14,19,835	13,60,636	20,76,645	0.26	0.20	0.25
15.	Konkani	15,08,432	15,70,108	17,60,607	0.28	0.23	0.21
16.	Manipuri	7,91,714	9,01,407	12,70,216	0.14	0.13	0.15
17.	Kashmiri	24,95,487	31,76,975	N.A. ⁴	0.46	0.46	N.A. ⁴
18.	Sanskrit	2,212	6,106	49,736	N	N	0.01

- Notes: ¹ The percentage of speakers of each language for 1981 have been worked out on the total population of India including the estimated population of Assam where the 1981 Census was not conducted due to disturbed conditions.
- ² Full figures for Tamil and Assamese for 1981 are not available as the census records for Tamil Nadu were lost in floods and the 1981 Census could not be conducted in Assam due to disturbances then in the State. Therefore, percentage to total population for Tamil and Assamese is not given.
- ³ The percentage of speakers of each language for 1991 has been worked out on the total population of India including the projected population for Jammu & Kashmir where the 1991 Census could not be conducted due to disturbances..
- ⁴ Full figures for Kashmiri language for 1991 are not available as the 1991 Census was not conducted in Jammu & Kashmir for reasons explained above.

N.A. — Not available

N — Negligible



National Flag



सत्यमेव जयते

National Emblem

2 National Symbols

NATIONAL FLAG

THE National flag is a horizontal tricolour of deep saffron (*kesaria*) at the top, white in the middle and dark green at the bottom in equal proportion. The ratio of width of the flag to its length is two to three. In the centre of the white band is a navy-blue wheel which represents the *chakra*. Its design is that of the wheel which appears on the abacus of the Sarnath Lion Capital of Ashoka. Its diameter approximates to the width of the white band and it has 24 spokes.

The design of the national flag was adopted by the Constituent Assembly of India on 22 July 1947. Its use and display are regulated by the Indian Flag Code.

STATE EMBLEM

The state emblem is an adaptation from the Sarnath Lion Capital of Ashoka. In the original, there are four lions, standing back to back, mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by intervening wheels over a bell-shaped lotus. Carved out of a single block of polished sandstone, the capital is crowned by the Wheel of the Law (*Dharma Chakra*).

In the State emblem, adopted by the Government of India on 26 January 1950, only three lions are visible, the fourth being hidden from view. The wheel appears in relief in the centre of the abacus with a bull on right and a horse on left and the outlines of other wheels on extreme right and left. The bell-shaped lotus has been omitted. The words *Satyameva Jayate* from *Mundaka Upanishad*, meaning 'Truth Alone Triumphs', are inscribed below the abacus in *Devanagari* script.

NATIONAL ANTHEM

The song *Jana-gana-mana*, composed originally in Bengali by Rabindranath Tagore, was adopted in its Hindi version by the Constituent Assembly as the National Anthem of India on 24 January 1950. It was first sung on 27 December 1911 at the Calcutta Session of the Indian National Congress. The complete song consists of five stanzas. The first stanza contains the full version of the National Anthem :

Jana-gana-mana-adhinayaka, jaya he

Bharata-bhagya-vidhata.

Punjab-Sindh-Gujarat-Maratha

Dravida-Utkala-Banga

Vindhya-Himachala-Yamuna-Ganga

Uchchala-Jaladhi-taranga.

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*Tava shubha name jage,
Tava shubha` asisa mage,
Gahe tava jaya gatha,
Jana-gana-mangala-dayaka jaya he
Bharata-bhagya-vidhata.
Jaya he, jaya he, jaya he,
Jaya jaya jaya, jaya he!*

Playing time of the full version of the national anthem is approximately 52 seconds. A short version consisting of first and last lines of the stanza (playing time approximately 20 seconds) is also played on certain occasions. The following is Tagore's English rendering of the anthem :

Thou art the ruler of the minds of all people,
dispenser of India's destiny.

Thy name rouses the hearts of Punjab, Sind,
Gujarat and Maratha,

Of the Dravida and Orissa and Bengal;

It echoes in the hills of the Vindyas and Himalayas,
mingles in the music of Jamuna and Ganges and is
chanted by the waves of the Indian Sea.

They pray for thy blessings and sing thy praise.

The saving of all people waits in thy hand,
thou dispenser of India's destiny.

Victory, victory, victory to thee.

NATIONAL SONG

The song *Vande Mataram*, composed in Sanskrit by Bankimchandra Chatterji, was a source of inspiration to the people in their struggle for freedom. It has an equal status with *Jana-gana-mana*. The first political occasion when it was sung was the 1896 session of the Indian National Congress. The following is the text of its first stanza :

Vande Mataram!

Sujalam, suphalam, malayaja shitalam,

Shasyashyamalam, Mataram!

Shubhrajyothsna pulakitayaminim,

Phullakusumita drumadala shobhinim,

Suhasinim sumadhura bhashinim,

Sukhadam varadam, Mataram!

The English translation of the stanza rendered by Sri Aurobindo in prose¹ is :

I bow to thee, Mother,
richly-watered, richly-fruited,
cool with the winds of the south,
dark with the crops of the harvests,
The Mother!
Her nights rejoicing in the glory of the moonlight,
her lands clothed beautifully with her trees in flowering bloom,
sweet of laughter, sweet of speech,
The Mother, giver of boons, giver of bliss.

NATIONAL CALENDAR

The national calendar based on the *Saka* Era with *Chaitra* as its first month and a normal year of 365 days was adopted from 22 March 1957 along with the Gregorian calendar for the following official purposes: (i) Gazette of India, (ii) news broadcast by All India Radio, (iii) calendars issued by the Government of India and (iv) Government communications addressed to the members of the public.

Dates of the national calendar have a permanent correspondence with dates of the Gregorian calendar : 1 *Chaitra* falling on 22 March normally and on 21 March in leap year.

NATIONAL ANIMAL

The magnificent tiger, *Panthera tigris* (Linnaeus), is a striped animal. It has a thick yellow coat of fur with dark stripes. The combination of grace, strength, agility and enormous power has earned the tiger its pride of place as the national animal of India. Out of eight races of the species known, the Indian race, the Royal Bengal Tiger, is found throughout the country except in the north-western region and also in the neighbouring countries, Nepal, Bhutan and Bangladesh. To check the dwindling population of tigers in India 'Project Tiger' was launched in April 1973. So far, 27 tiger reserves have been established in the country under this project, covering an area of 37,761 sq km.

NATIONAL BIRD

The Indian peacock, *Pavo cristatus* (Linnaeus), the national bird of India, is a colourful, swan-sized bird, with a fan-shaped crest of feathers, a white patch under the eye and a long, slender neck. The male of the species is more colourful than the female, with a glistening blue breast and neck and a spectacular bronze-green train of around 200 elongated feathers. The female is brownish, slightly smaller than the male, and lacks the train. The elaborate courtship dance of the male, fanning out the tail and preening its feathers, is a gorgeous sight.

¹ As published in Volume Eight of Sri Aurobindo Birth Centenary Library Popular Edition 1972

The peacock is widely found in the Indian sub-continent from the south and east of the Indus river, Jammu and Kashmir, east Assam, south Mizoram and the whole of the Indian peninsula. The Peacock enjoys protection from the people as it is never molested for religious and sentimental reasons. It is fully protected under the Indian Wildlife (Protection) Act, 1972.

NATIONAL FLOWER

Lotus (*Nelumbo nucifera*) is the National Flower of India. It is a sacred flower and occupies a unique position in the art and mythology of ancient India and has been an auspicious symbol of Indian culture since time immemorial.

3 The Polity

INDIA, a Union of States, is a Sovereign Socialist Secular Democratic Republic with a parliamentary system of government. The Republic is governed in terms of the Constitution, which was adopted by Constituent Assembly on 26 November 1949 and came into force on 26 January 1950.

The Constitution which envisages parliamentary form of government is federal in structure with unitary features. President of India is constitutional head of executive of the Union. Article 74(1) of the Constitution provides that there shall be a Council of Ministers with the Prime Minister as head to aid and advise President who shall in exercise of his functions, act in accordance with such advice. Real executive power thus vests in Council of Ministers with Prime Minister as head. Council of Ministers is collectively responsible to the House of the People (Lok Sabha). Similarly, in states, Governor is head of executive, but it is the Council of Ministers with Chief Minister as head in whom real executive power vests. Council of Ministers of a state is collectively responsible to the Legislative Assembly.

The Constitution distributes legislative power between Parliament and state legislatures and provides for vesting of residual powers in Parliament. Power to amend the Constitution also vests in Parliament. The Constitution has provision for independence of judiciary, Comptroller and Auditor-General, Public Service Commissions and Chief Election Commissioner.

THE UNION AND ITS TERRITORY

India comprises 28 States and seven Union Territories. They are: Andhra Pradesh, Assam, Arunachal Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttaranchal, Uttar Pradesh and West Bengal. Union Territories are : Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Delhi, Lakshadweep and Pondicherry.

CITIZENSHIP

The Constitution of India provides for a single citizenship for the whole of India. Every person who was at the commencement of the Constitution (26 January 1950) domiciled in the territory of India and: (a) who was born in India; or (b) either of whose parents was born in India; or (c) who has been ordinarily resident in India for not less than five years became a citizen

of India. The Citizenship Act, 1955, deals with matters relating to acquisition, determination and termination of Indian citizenship after the commencement of the Constitution.

FUNDAMENTAL RIGHTS

The Constitution offers all citizens, individually and collectively, some basic freedoms. These are guaranteed in the Constitution in the form of six broad categories of Fundamental Rights which are justiciable. Article 12 to 35 contained in Part III of the Constitution deal with Fundamental Rights. These are : (i) right to equality including equality before law, prohibition of discrimination on grounds of religion, race, caste, sex or place of birth and equality of opportunity in matters of employment; (ii) right to freedom of speech and expression; assembly; association or union; movement; residence; and right to practice any profession or occupation (some of these rights are subject to security of the State, friendly relations with foreign countries, public order, decency or morality); (iii) right against exploitation, prohibiting all forms of forced labour, child labour and traffic in human beings; (iv) right to freedom of conscience and free profession, practice and propagation of religion; (v) right of any section of citizens to conserve their culture, language or script and right of minorities to establish and administer educational institutions of their choice; and (vi) right to constitutional remedies for enforcement of Fundamental Rights.

FUNDAMENTAL DUTIES

By the 42nd Amendment of the Constitution, adopted in 1976, Fundamental Duties of the citizens have also been enumerated. Article 51 'A' contained in Part IV A of the Constitution deals with Fundamental Duties. These enjoin upon a citizen among other things, to abide by the Constitution, to cherish and follow noble ideals which inspired our national struggle for freedom, to defend the country and render national service when called upon to do so and to promote harmony and spirit of common brotherhood amongst all people of India transcending religious, linguistic and regional or sectional diversities.

DIRECTIVE PRINCIPLES OF STATE POLICY

The Constitution lays down certain Directive Principles of State Policy which though not justiciable, are 'fundamental in governance of the country' and it is the duty of the State to apply these principles in making laws. These lay down that the State shall strive to promote the welfare of people by securing and protecting as effectively as it may a social order in which justice—social, economic and political—shall form in all institutions of national life. The State shall direct its policy in such a manner as to secure the right of all men and women to an adequate means of livelihood, equal pay for equal work and within limits of its economic capacity and development, to make effective provision for securing the right to work, education and to

public assistance in the event of unemployment, old age, sickness and disablement or other cases of undeserved want. The State shall also endeavour to secure to workers a living wage, humane conditions of work, a decent standard of life and full involvement of workers in management of industries.

In the economic sphere, the State is to direct its policy in such a manner as to secure distribution of ownership and control of material resources of community to subserve the common good and to ensure that operation of economic system does not result in concentration of wealth and means of production to common detriment.

Some of the other important directives relate to provision of opportunities and facilities for children to develop in a healthy manner, free and compulsory education for all children up to the age of 14; promotion of education and economic interests of scheduled castes, scheduled tribes and other weaker sections; organisation of village *panchayats*; separation of judiciary from executive, promulgation of a uniform civil code for whole country; protection of national monuments; promotion of justice on a basis of equal opportunity; provision of free legal aid; protection and improvement of environment and safeguarding of forests and wildlife of the country and promotion of international peace and security, just and honourable relations between nations, respect for international law, treaty obligations and settlement of international disputes by arbitration.

THE UNION

EXECUTIVE

The Union executive consists of the President, the Vice-President and the Council of Ministers with the Prime Minister at the head to aid and advise the President.

PRESIDENT

The President is elected by members of an electoral college consisting of elected members of both Houses of Parliament and Legislative Assemblies of the states in accordance with the system of proportional representation by means of single transferable vote. To secure uniformity among state *inter se*, as well as parity between the states, as a whole, and the Union, suitable weightage is given to each vote. President must be a citizen of India, not less than 35 years of age and qualified for election as member of the Lok Sabha. His term of office is five years and he is eligible for re-election. His removal from office is to be in accordance with procedure prescribed in Article 61 of the Constitution. He may, by writing under his hand addressed to the Vice-President, resign his office.

Executive power of the Union is vested in the President and is exercised by him either directly or through officers subordinate to him in accordance with the Constitution. Supreme command of defence forces of the Union also

vests in him. The President summons, prorogues, addresses, sends messages to Parliament and dissolves the Lok Sabha; promulgates Ordinances at any time, except when both Houses of Parliament are in session; makes recommendations for introducing financial and money bills and gives assent to bills; grants pardons, reprieves, respites or remission of punishment or suspends, remits or commutes sentences in certain cases. When there is a failure of the constitutional machinery in a state, he can assume to himself all or any of the functions of the government of that state. The President can proclaim emergency in the country if he is satisfied that a grave emergency exists whereby security of India or any part of its territory is threatened whether by war or external aggression or armed rebellion.

VICE-PRESIDENT

The Vice-President is elected by members of an electoral college consisting of members of both Houses of Parliament in accordance with the system of proportional representation by means of single transferable vote. He must be a citizen of India, not less than 35 years of age and eligible for election as a member of the Rajya Sabha. His term of office is five years and he is eligible for re-election. His removal from office is to be in accordance with procedure prescribed in Article 67 b.

The Vice-President is *ex-officio* Chairman of the Rajya Sabha and acts as President when the latter is unable to discharge his functions due to absence, illness or any other cause or till the election of a new President (to be held within six months when a vacancy is caused by death, resignation or removal or otherwise of President). While so acting, he ceases to perform the function of the Chairman of the Rajya Sabha.

COUNCIL OF MINISTERS

There is a Council of Ministers headed by the Prime Minister to aid and advise the President in exercise of his functions. The Prime Minister is appointed by the President who also appoints other ministers on the advice of Prime Minister. The Council is collectively responsible to the Lok Sabha. It is the duty of the Prime Minister to communicate to the President all decisions of Council of Ministers relating to administration of affairs of the Union and proposals for legislation and information relating to them.

The Council of Ministers comprises Ministers who are members of Cabinet, Ministers of State (independent charge), Ministers of State and Deputy Ministers.

LEGISLATURE

Legislature of the Union which is called Parliament, consists of President and two Houses, known as Council of States (Rajya Sabha) and House of the People (Lok Sabha). Each House of Parliament has to meet within six months

of its previous sitting. A joint sitting of two Houses can be held in certain cases.

RAJYA SABHA

The Constitution provides that the Rajya Sabha shall consist of 250 members, of which 12 members shall be nominated by the President from amongst persons having special knowledge or practical experience in respect of such matters as literature, science, art and social service; and not more than 238 representatives of the States and of the Union Territories.

Elections to the Rajya Sabha are indirect; members representing States are elected by elected members of legislative assemblies of the States in accordance with the system of proportional representation by means of the single transferable vote, and those representing Union Territories are chosen in such manner as Parliament may by law prescribe. The Rajya Sabha is not subject to dissolution; one-third of its members retire every second year.

Rajya Sabha, at present, has 245 seats. Of these, 233 members represent the States and the Union Territories and 12 members are nominated by the President. The names of members of Rajya Sabha and party affiliation are given in Appendices.

LOK SABHA

The Lok Sabha is composed of representatives of people chosen by direct election on the basis of adult suffrage. The maximum strength of the House envisaged by the Constitution is now 552 (530 members to represent States, 20 to represent Union Territories and not more than two members of Anglo-Indian community to be nominated by the President, if, in his opinion, that community is not adequately represented in the House). The total elective membership of the Lok Sabha is distributed among States in such a way that the ratio between the number of seats allotted to each State and population of the State is, as far as practicable, the same for all States. The Lok Sabha at present consists of 545 members. Of these, 530 members are directly elected from the States and 13 from Union Territories while two are nominated by the President to represent the Anglo-Indian community. The allocation of seats in the present Lok Sabha is based on the 1971 census and under the 42nd Amendment of the Constitution (1976) will continue to be so based until figures of the first census taken after 2000 AD become available.

The term of the Lok Sabha, unless dissolved, is five years from the date appointed for its first meeting. However, while a proclamation of emergency is in operation, this period may be extended by Parliament by law for a period not exceeding one year at a time and not extending in any case, beyond a period of six months after the proclamation has ceased to operate. Thirteen Lok Sabhas have been constituted so far. The term of each Lok Sabha and its Speaker(s) is given in table 3.1.

The State-wise allocation of seats in the two Houses and the party

position in the Lok Sabha is given in table 3.2. The names of members of the Thirteenth Lok Sabha, their constituencies and party affiliations are given in Appendices.

QUALIFICATION FOR MEMBERSHIP OF PARLIAMENT

In order to be chosen a member of Parliament, a person must be a citizen of India and not less than 30 years of age in the case of Rajya Sabha and not less than 25 years of age in the case of Lok Sabha. Additional qualifications may be prescribed by Parliament by law.

FUNCTIONS AND POWERS OF PARLIAMENT

As in other parliamentary democracies, Parliament of India has the cardinal functions of legislation, overseeing of administration, passing of budget, ventilation of public grievances and discussing various subjects like development plans, international relations and national policies. The distribution of powers between the Union and the States, followed in the Constitution, emphasises in many ways the general predominance of Parliament in the legislative field. Apart from a wide range of subjects, even in normal times Parliament can, under certain circumstances, assume legislative power with respect to a subject falling within the sphere exclusively reserved for the States. Parliament is also vested with powers to impeach the President and to remove the Judges of Supreme Court and High Courts, the Chief Election Commissioner and the Comptroller and Auditor General in accordance with the procedure laid down in the Constitution.

All legislation requires consent of both the Houses of Parliament. In the case of money bills, however, the will of the Lok Sabha prevails. Delegated legislation is also subject to review and control by Parliament. Besides the power to legislate, the Constitution vests in Parliament the power to initiate amendment of the Constitution. A list of laws made by Parliament during 2000 is given at the end of the Chapter entitled 'Justice and Law'.

PARLIAMENTARY COMMITTEES

The functions of Parliament are not only varied in nature, but considerable in volume. The time at its disposal is limited. It cannot make very detailed scrutiny of all legislative and other matters that come up before it. A good deal of its business is, therefore, transacted in committees.

Both Houses of Parliament have a similar committee structure, with a few exceptions. Their appointment, terms of office, functions and procedure of conducting business are also more or less similar and are regulated under rules made by the two Houses under Article 118(1) of the Constitution.

Broadly, parliamentary committees are of two kinds—standing committees and *ad hoc* committees. The former are elected or appointed every year or periodically and their work goes on, more or less, on a continuous basis. The latter are appointed on an *ad hoc* basis as need arises and they cease to exist as soon as they complete the task assigned to them.

Standing Committees : Among standing committees, the three financial committees—*Committees on Estimates, Public Accounts and Public Undertakings*—constitute a distinct group and they keep an unremitting vigil over Government expenditure and performance. While members of the Rajya Sabha are associated with Committees on Public Accounts and Public Undertakings, members of the Committee on Estimates are drawn entirely from the Lok Sabha.

The *Estimates Committee* reports on 'what economies, improvements in organisation, efficiency or administrative reform consistent with policy underlying the estimates' may be effected. It also examines whether the money is well laid out within limits of the policy implied in the estimates and suggests the form in which estimates shall be presented to Parliament. The *Public Accounts Committee* scrutinises appropriation and finance accounts of Government and reports of the Comptroller and Auditor-General. It ensures that public money is spent in accordance with Parliament's decision and calls attention to cases of waste, extravagance, loss or negatory expenditure. The *Committee on Public Undertakings* examines reports of the Comptroller and Auditor-General, if any. It also examines whether public undertakings are being run efficiently and managed in accordance with sound business principles and prudent commercial practices.

Besides these three financial committees, the Rules Committee of the Lok Sabha recommended setting up of 17 *Department Related Standing Committees*. Accordingly, 17 Department Related Standing Committees were set up on 8 April 1993. The functions of these committees are : (a) to consider the Demands for Grants of various ministries/departments of Government of India and make reports to the Houses; (b) to examine such Bills as are referred to the Committee by the Chairman, Rajya Sabha or the Speaker, Lok Sabha, as the case may be, and make reports thereon; (c) to consider Annual Reports of ministries/departments and make reports thereon; and (d) to consider policy documents presented to the Houses, if referred to the Committee by the Chairman, Rajya Sabha or the Speaker, Lok Sabha, as the case may be, and make reports thereon.

Other standing committees in each House, divided in terms of their functions, are (i) Committees to Inquire: (a) *Committee on Petitions* examines petitions on bills and on matters of general public interest and also entertains representations on matters concerning Central subjects; and (b) *Committee of Privileges* examines any question of privilege referred to it by the House or Speaker/Chairman; (ii) Committees to Scrutinise: (a) *Committee on Government Assurances* keeps track of all assurances, promises, undertakings, etc., given by ministers in the House and pursues them till they are implemented; (b) *Committee on Subordinate Legislation* scrutinises and reports to the House whether the power to make regulations, rules, sub-rules, bye-laws, etc., conferred by the Constitution or Statutes is being properly

exercised by the delegated authorities; and (c) *Committee on Papers Laid on the Table* examines all papers laid on the table of the House by ministers, other than statutory notifications and orders which come within the purview of the Committee on Subordinate Legislation, to see whether there has been compliance with provisions of the Constitution, Act, rule or regulation under which the paper has been laid; (iii) Committees relating to the day-to-day business of the House: (a) *Business Advisory Committee* recommends allocation of time for items of Government and other business to be brought before the Houses; (b) *Committee on Private Members' Bills and Resolutions of the Lok Sabha* classifies and allocates time to Bills introduced by private members, recommends allocation of time for discussion on private members' resolutions and examines Constitution amendment bills before their introduction by private members in the Lok Sabha. The Rajya Sabha does not have such a committee. It is the Business Advisory Committee of that House which recommends allocation of time for discussion on stage or stages of private members' bills and resolutions; (c) *Rules Committee* considers matters of procedure and conduct of business in the House and recommends amendments or additions to the Rules; and (d) *Committee on Absence of Members from the Sittings of the House of the Lok Sabha* considers all applications from members for leave or absence from sittings of the House. There is no such committee in the Rajya Sabha. Applications from members for leave or absence are considered by the House itself; (iv) *Committee on the Welfare of Scheduled Castes and Scheduled Tribes*, on which members from both Houses serve, considers all matters relating to welfare of scheduled castes and scheduled tribes which come within the purview of the Union Government and keeps a watch whether constitutional safeguards in respect of these classes are properly implemented; (v) Committees concerned with provision of facilities to members : (a) *General Purposes Committee* considers and advises Speaker/Chairman on matters concerning affairs of the House, which do not appropriately fall within the purview of any other parliamentary committee; and (b) *House Committee* deals with residential accommodation and other amenities for members; (vi) *Joint Committee on Salaries and Allowances of Members of Parliament*, constituted under the Salary, Allowances and Pension of Members of Parliament Act, 1954, apart from framing rules for regulating payment of salary, allowances and pension to Members of Parliament, also frames rules in respect of amenities like medical, housing, telephone, postal, constituency and secretariat facility; (vii) *Joint Committee on Offices of Profit* examines the composition and character of committees and other bodies appointed by Central and State governments and Union Territory administrations and recommends what offices ought to or ought not to disqualify a person for being chosen as a member of either House of Parliament; (viii) *Library Committee* consisting of members from both Houses, considers matters concerning Library of Parliament; (ix) On 29 April 1997, a *Committee on Empowerment of Women* with members from both the Houses was constituted with a view to securing, among other things, status, dignity and equality for women in all fields; (x) On 4 March 1997, the *Ethics*

Committee of the Rajya Sabha was constituted and that of the Lok Sabha on 16 May 2000.

Ad hoc Committees : Such committees may be broadly classified under two heads (a) committees which are constituted from time to time, either by two Houses on a motion adopted in that behalf or by Speaker/Chairman to inquire into and report on specific subjects, (e.g., *Committees on the Conduct of certain Members during President's Address, Committees on Draft Five-Year Plans, Railway Convention Committee, Committee on Members of Parliament Local Area Development Scheme, Joint Committee on Bofors Contracts, Joint Committee on Fertilizer Pricing, Joint Committee to enquire into irregularities in securities and banking transactions, Joint Committee on Stock Market Scam, etc.*) and (b) *Select or Joint Committees on Bills* which are appointed to consider and report on a particular bill. These committees are distinguishable from other *ad hoc* committees in as much as they are concerned with bills and the procedure to be followed by them as laid down in the Rules of Procedure and Directions by the Speaker/Chairman.

LEADERS OF OPPOSITION IN PARLIAMENT

In keeping with their important role, the Leaders of Opposition in the Rajya Sabha and the Lok Sabha are accorded statutory recognition. Salary and other suitable facilities are extended to them through a separate legislation brought into force on 1 November 1977.

GOVERNMENT BUSINESS IN PARLIAMENT

The Minister of Parliamentary Affairs is entrusted with the responsibility of coordinating, planning and arranging Government Business in both Houses of Parliament. In the discharge of this function, he is assisted by his Ministers of State. For this purpose, the Ministry works under the overall direction of Cabinet Committee on Parliamentary Affairs. The Minister also keeps close and constant contact with the presiding officers, the leaders as well as chief whips and whips of various parties and groups in both Houses of Parliament.

CONSULTATIVE COMMITTEES

The Ministry of Parliamentary Affairs constitutes consultative committees of Members of Parliament attached to various Ministries and arranges meetings thereof. The Minister/Minister of State in-charge of the Ministry concerned acts as the Chairman of the Consultative Committee of that Ministry. The main purpose of these Committees is to provide a forum for informal discussions between the Government and Members of Parliament on policies and programmes of the Government and the manner of their implementation. Meetings of these Committees are held both during the session and inter-session periods of Parliament. Besides this, informal consultative committees of the nine Railway Zones are also constituted and their meetings arranged during the session periods.

NOMINATION OF MEMBERS OF PARLIAMENT ON GOVERNMENT COMMITTEES/BODIES

The Minister of Parliamentary Affairs nominates Members of Parliament on committees, councils, boards and commissions, etc., set-up by the Government of India in the various Ministries. The Members are nominated on such bodies keeping in view their special interest and aptitude in the subject.

OTHER PARLIAMENTARY MATTERS

The Ministry of Parliamentary Affairs, Government of India, has been organising All India Whips' Conferences from time to time, with the purpose of establishing suitable links amongst the whips of various political parties at the Centre and in the States who are concerned with the practical working of the legislatures to discuss matters of common interest and to evolve high standards to strengthen the institutions of parliamentary democracy.

The Ministry of Parliamentary Affairs takes follow-up action on matters raised under Rule 377 of the Rules of Procedure and Conduct of Business in Lok Sabha and by way of Special Mentions in Rajya Sabha. Also, after 'Question Hour', in both Houses of Parliament, Members raise matters of urgent public importance. Though it is not mandatory, Ministers sometimes react to the points made by the Members. When the concerned Ministers are not present the Minister of Parliamentary Affairs assures the House or the individual members that their sentiments would be conveyed to the concerned Ministries.

IMPLEMENTATION OF ASSURANCES

The Ministry culls out assurances, promises, undertakings, etc., given by Ministers in both Houses of Parliament, from the daily proceedings and forwards them to the concerned Ministries/Departments for implementation. Statements showing action taken by the Government in implementation of the assurances, after due scrutiny of the implementation reports received from the various Ministries/Departments concerned, are laid periodically on the table of the Houses by Minister/Minister of State for Parliamentary Affairs.

ADMINISTRATIVE SET-UP

The Government of India (Allocation of Business) Rules, 1961 are made by the President of India under Article 77 of the Constitution for the allocation of business of the Government of India. The ministries/departments of the Government of India are created by the President on the advice of the Prime Minister under these Rules. The business of the Government of India are transacted in the ministries/departments, secretariats and offices (referred to as "Department") as per the distribution of subjects specified in these Rules. Each of the Ministry (ies) is assigned to a Minister by the President on the advice of the Prime Minister. Each department is generally under the charge of a Secretary to assist the Minister on policy matters and general administration.

The Cabinet Secretariat is responsible for secretarial assistance to the

Cabinet, its committees and *ad hoc* Groups of Ministers, and for maintenance of record of their decisions and proceedings. The Secretariat monitors implementation of the decisions/directions of the Cabinet/Cabinet Committees/groups of ministers. The Secretariat is also responsible for the administration of the Government of India (Transaction of Business) Rules, 1961 and facilitates smooth transaction of business in ministries/departments of the Government by ensuring adherence to these Rules. The Secretariat assists in decision-making in Government by ensuring inter-ministerial co-ordination ironing out differences amongst ministries/departments and evolving consensus through the instrumentality of the standing/*ad hoc* committees of secretaries. Through this mechanism new policy initiatives are promoted. The Cabinet Secretariat ensures that the President, the Vice-President and ministers are kept informed of the major activities of all ministries/departments by means of monthly summary of their activities. Management of major crisis situations in the country and coordinating activities of various ministries in such a situation is also one of the functions of this Secretariat.

MINISTRIES/DEPARTMENTS OF THE GOVERNMENT

The Government consists of a number of ministries/departments, number and character varying from time to time on factors such as volume of work, importance attached to certain items, changes of orientation, political expediency, etc. On 15 August 1947, the number of ministries at the Centre was 18. As on 22 August 2001 the Government consisted of the following ministries/departments under the Government of India (Allocation of Business) Rules, 1961.

1. Ministry of Agriculture (*Krishi Mantralaya*)

- (i) Department of Agriculture and Cooperation
(*Krishi aur Sahkarita Vibhag*)
- (ii) Department of Agricultural Research and Education
(*Krishi Anusandhan aur Shiksha Vibhag*)
- (iii) Department of Animal Husbandry and Dairying
(*Pashupalan aur Dairy Vibhag*)
- (iv) Department of Food Processing Industries
(*Khadya Prasanskaran Udyog Vibhag*)

2. Ministry of Chemicals and Fertilizers (*Rasayan aur Urvarak Mantralaya*)

- (i) Department of Chemicals and Petro-Chemicals
(*Rasayan aur Petro-Rasayan Vibhag*)
- (ii) Department of Fertilizers (*Urvarak Vibhag*)

3. Ministry of Civil Aviation (*Nagar Vimanan Mantralaya*)

4. Ministry of Coal (*Koyala Mantralaya*)

5. Ministry of Commerce and Industry (*Vanijya aur Udyog Mantralaya*)

- (i) Department of Commerce (*Vanijya Vibhag*)

- (ii) Department of Industrial Policy and Promotion
(*Audyogik Niti aur Samvardhan Vibhag*)
- 6. **Ministry of Communications (*Sanchar Mantralaya*)**
 - (i) Department of Telecommunications
(*Doorsanchar Vibhag*)
 - (ii) Department of Posts (*Dak Vibhag*)
- 7. **Ministry of Defence (*Raksha Mantralaya*)**
 - (i) Department of Defence (*Raksha Vibhag*)
 - (ii) Department of Defence Production and Supplies
(*Raksha Utpadan aur Poorti Vibhag*)
 - (iii) Department of Defence Research and Development
(*Raksha Anusandhan aur Vikas Vibhag*)
- 8. **Ministry of Environment and Forests (*Paryavaran aur Van Mantralaya*)**
- 9. **Ministry of External Affairs (*Videsh Mantralaya*)**
- 10. **Ministry of Finance (*Vitta Mantralaya*)**
 - (i) Department of Economic Affairs (*Arthik Karya Vibhag*)
 - (ii) Department of Expenditure (*Vyaya Vibhag*)
 - (iii) Department of Revenue (*Rajaswa Vibhag*)
- 11. **Ministry of Consumer Affairs, Food and Public Distribution
(*Upbhokta Mamle, Khadya aur Sarvajanik Vitaran Mantralaya*)**
 - (i) Department of Consumer Affairs
(*Upbhokta Mamle Vibhag*)
 - (ii) Department of Food and Public Distribution
(*Khadya aur Sarvajanik Vitaran Vibhag*)
- 12. **Ministry of Health and Family Welfare
(*Swasthya aur Parivar Kalyan Mantralaya*)**
 - (i) Department of Health (*Swasthya Vibhag*)
 - (ii) Department of Family Welfare (*Parivar Kalyan Vibhag*)
 - (iii) Department of Indian Systems of Medicine and Homoeopathy
(*Bhartiya Chikitsa Paddhati aur Homoeopathy Vibhag*)
- 13. **Ministry of Heavy Industries and Public Enterprises
(*Bhari Udyog aur Lok Udyam Mantralaya*)**
 - (i) Department of Heavy Industries (*Bhari Udyog Vibhag*)
 - (ii) Department of Public Enterprises (*Lok Udyam Vibhag*)
- 14. **Ministry of Home Affairs (*Grih Mantralaya*)**
 - (i) Department of Internal Security
(*Antarik Suraksha Vibhag*)
 - (ii) Department of States (*Rajya Vibhag*)

- (iii) Department of Official Language (*Raj Bhasha Vibhag*)
- (iv) Department of Home (*Grih Vibhag*)
- (v) Department of Jammu and Kashmir Affairs (*Jammu tatha Kashmir Vibhag*)

15. Ministry of Human Resource Development
(*Manav Sansadhan Vikas Mantralaya*)

- (i) Department of Elementary Education and Literacy (*Prarambhik Shiksha aur Saksharta Vibhag*)
- (ii) Department of Secondary Education and Higher Education (*Madhyamik aur Uchchatar Shiksha Vibhag*)
- (iii) Department of Women and Child Development (*Mahila aur Bal Vikas Vibhag*)

16. Ministry of Information and Broadcasting
(*Soochana aur Prasaran Mantralaya*)

17. Ministry of Information Technology
(*Soochana Praudyogiki Mantralaya*)

18. Ministry of Labour (Shram Mantralaya)

19. Ministry of Law, Justice and Company Affairs
(*Vidhi, Nyaya aur Kampany Karya Mantralaya*)

- (i) Department of Legal Affairs (*Vidhi Karya Vibhag*)
- (ii) Legislative Department (*Vidhayee Vibhag*)
- (iii) Department of Justice (*Nyaya Vibhag*)
- (iv) Department of Company Affairs (*Kampany Karya Vibhag*)

20. Ministry of Mines (Khan Mantralaya)

21. Ministry of Non-Conventional Energy Sources
(*Aparamparik Oorja Srota Mantralaya*)

22. Ministry of Parliamentary Affairs (Sansadiya Karya Mantralaya)

23. Ministry of Personnel, Public Grievances and Pensions
(*Karmik Lok Shikayat tatha Pension Mantralaya*)

- (i) Department of Personnel and Training (*Karmik aur Prashikshan Vibhag*)
- (ii) Department of Administrative Reforms and Public Grievances (*Prashasanik Sudhar aur Lok Shikayat Vibhag*)
- (iii) Department of Pensions and Pensioners' Welfare (*Pension aur Pension Bhogi Kalyan Vibhag*)

24. Ministry of Petroleum and Natural Gas
(*Petroleum aur Prakritik Gas Mantralaya*)

25. Ministry of Planning (*Yojana Mantralaya*)
26. Ministry of Power (*Vidyut Mantralaya*)
27. Ministry of Railways (*Rail Mantralaya*)
28. Ministry of Road Transport and Highways (*Sarak Parivahan aur Raj Marg Mantralaya*)
29. Ministry of Rural Development (*Gramin Vikas Mantralaya*)
 - (i) Department of Rural Development (*Gramin Vikas Vibhag*)
 - (ii) Department of Land Resources (*Bhumi Sansadhan Vibhag*)
 - (iii) Department of Drinking Water Supply (*Peya Jal Poorti Vibhag*)
30. Ministry of Science and Technology (*Vigyan aur Praudyogiki Mantralaya*)
 - (i) Department of Science and Technology (*Vigyan aur Praudyogiki Vibhag*)
 - (ii) Department of Scientific and Industrial Research (*Vigyan aur Audyogik Anusandhan Vibhag*)
 - (iii) Department of Bio-Technology (*Biotechnology Vibhag*)
31. Ministry of Small Scale Industries and Agro and Rural Industries (*Laghu Udyog aur Krishi Evam Gramin Udyog Mantralaya*)
32. Ministry of Statistics and Programme Implementation (*Sankhyiki aur Karyakram Karyanvayan Mantralaya*)
33. Ministry of Shipping (*Pot Parivahan Mantralaya*)
34. Ministry of Steel (*Ispat Mantralaya*)
35. Ministry of Textiles (*Vastra Mantralaya*)
36. Ministry of Tourism and Culture (*Paryatan aur Sanskriti Mantralaya*)
 - (i) Department of Tourism (*Paryatan Vibhag*)
 - (ii) Department of Culture (*Sanskriti Vibhag*)
37. Ministry of Tribal Affairs (*Janjati Karya Mantralaya*)
38. Ministry of Urban Development and Poverty Alleviation (*Shahari Vikas aur Garibi Upshaman Mantralaya*)
 - (i) Department of Urban Development (*Shahari Vikas Vibhag*)
 - (ii) Department of Urban Employment and Poverty Alleviation (*Shahari Rozgar aur Garibi Upshaman Vibhag*)
39. Ministry of Water Resources (*Jal Sansadhan Mantralaya*)
40. Ministry of Social Justice and Empowerment

(Samajik Nyaya aur Adhikarita Mantralaya)

41. Ministry of Youth Affairs and Sports (*Yuva Karyakram aur Khel Mantralaya*)
42. Department of Atomic Energy (*Parmanu Oorja Vibhag*)
43. Department of Ocean Development (*Mahasagar Vikas Vibhag*)
44. Department of Space (*Antariksh Vibhag*)
45. Cabinet Secretariat (*Mantrimandal Sachivalaya*)
46. President's Secretariat (*Rashtrapati Sachivalaya*)
47. Prime Minister's Office (*Pradhan Mantri Karyalaya*)
48. Planning Commission (*Yojana Ayog*)
49. Department of Disinvestment (*Vinivesh Vibhag*)

PUBLIC SERVICES

ALL INDIA SERVICES

Prior to Independence, the Indian Civil Service (ICS) was the senior most amongst the Services of the Crown in India. Besides the ICS, there was also the Indian Police Service. After Independence, it was felt that though the ICS was a legacy of the imperial period there was need for the All India Services for maintaining the unity, integrity and stability of the nation. Accordingly, a provision was made in Article 312 of the Constitution for creation of one or more All India Services common to the Union and State. Indian Administrative Service and Indian Police Service are deemed to be constituted by the Parliament in terms of Article 312 of the Constitution. After the promulgation of the Constitution, a new All India Service, namely, Indian Forest Service, was created in 1966. A common unique feature of the All India Services is that the members of these services are recruited by the Centre but their services are placed under various State cadres and they have the liability to serve both under the State and under the Centre. This aspect of the All India Services strengthens the unitary character of the Indian federation.

Of the three All India Services, namely, the Indian Administrative Service (IAS), the Indian Police Service (IPS) and the Indian Forest Service (IFS), the Ministry of Personnel, Public Grievances and Pensions is the cadre controlling authority for the IAS. The recruitment to all the three services is made by the UPSC. These officers are recruited and trained by the Central Government and then allotted to different State cadres. There are now 24 State cadres including three Joint cadres, namely, (i) Assam and Meghalaya, (ii) Manipur and Tripura and (iii) Arunachal Pradesh, Goa, Mizoram and the Union Territories (AGMUT). The authorised cadre strength of Indian Administrative Service as on 1 January 2001 was 5,159 and the actual number of IAS officers in position was 5,088.

CENTRAL SECRETARIAT SERVICES

The Central Secretariat has three services, namely, (i) Central Secretariat Services (CSS), (ii) Central Secretariat Stenographers' Services (CSSS) and (iii) the Central Secretariat Clerical Service (CSCS). The Section Officers' Grade and Assistants' Grade of CSS, Steno Grade 'D' 'C', 'A' and 'B' (merged) of CSSS and LDC and UDC are decentralised. The grades of Principal Private Secretary and Senior Principal Private Secretary of CSSS and selection grade, and Grade I of CSS are centralised. Appointments and promotions in the Centralised Grades are made on all secretariat basis. In respect of the decentralised grades, Department of Personnel and Training monitors and assesses the overall requirements of different cadres for fixing zones of promotion against the vacancies in seniority quota and arranges centralised recruitment against direct recruitment and departmental examination quota vacancies through open competitive and departmental examination.

UNION PUBLIC SERVICE COMMISSION

The Constitution provides for an independent body known as Union Public Service Commission (UPSC) for recruitment to Group 'A' and Group 'B' civil posts under Central Government, the maximum of the pay scale of which is not less than Rs 10,500 and for advice in various service matters. The Chairman and members of the Commission are appointed by the President for tenure of six years or till they attain the age of 65 years, whichever is earlier. To ensure independence, members who were at the service of Government at the time of appointment are deemed to have retired from Government service on their appointment in the Commission. The Chairman and members are also not eligible for further employment under the Government. They cannot be removed except for the reasons and in the manner provided for in the Constitution.

STAFF SELECTION COMMISSION

Staff Selection Commission initially known as Subordinate Services Commission was set up on 1 July 1976. It has been entrusted with the work of making recruitment to (i) all Group 'B' posts in the various Ministries/Departments of the Government of India and their attached and Subordinate Offices which are in the pay scales the maximum of which is below Rs 10,500 and (ii) all non-technical Group 'C' posts in the various Ministries/Departments of the Government of India and their attached and Subordinate Offices, except those posts which are specifically exempted from the purview of the Staff Selection Commission. The Commission is an attached office of the Department of Personnel and Training and comprises of a Chairman, two members and Secretary-cum-Controller of Examinations. The tenure of Chairman/Members is for five years or till they attain the age of 62 years, whichever is earlier. The Commission's headquarters and the office of its Northern Region are in New Delhi. The offices of Central, Western, Eastern, North-Eastern, Southern and Karnataka-Kerala region are at Allahabad, Mumbai, Kolkata, Guwahati, Chennai and Bangalore respectively. Its sub-regional offices of Madhya

Pradesh-Chhattisgarh region and North-Western region are at Raipur and Chandigarh respectively.

OFFICIAL LANGUAGE

Hindi, according to Article 343 (1) of the Constitution, is the Official Language of the Union. But provision was also made in Article 343 (2) for continuing the use of English in official work for a period of 15 years (*i.e.*, up to 25 January 1965) from the date of commencement of the Constitution. Article 343(3) empowered Parliament to provide by law for continued use of English for official purposes even after 25 January 1965. Accordingly, the Official Languages Act, 1963 (amended in 1967) was passed for continuing the use of English in official work even after 25 January 1965. The Act also lays down that both Hindi and English shall compulsorily be used for certain specified purposes, such as resolutions, general orders, rules, notifications, press communiques, administrative and other reports, licences, permits, contracts, agreements, etc.

In the year 1976, Official Language Rules were framed under provision of Section 8(1) of the Official Language Act 1963. Its salient features are: (i) they apply to all the Central Government offices including any office of a commission, committee or tribunal appointed by the Central Government and corporation or company owned or controlled by it; (ii) communications from a Central Government office to States/Union Territories or to any person in Region 'A' (Uttar Pradesh, Uttaranchal, Himachal Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Rajasthan, Haryana, Andaman & Nicobar Islands and Delhi) shall be in Hindi; (iii) communications from a Central Government office to States/Union Territories in Region 'B' (Punjab, Gujarat, Maharashtra and Chandigarh) shall ordinarily be in Hindi. However, communications to any person in Region 'B' may be either in English or Hindi; (iv) communications between Central Government offices and from Central offices to the offices of the State governments/Union Territories and individuals, etc., will be in Hindi in such proportions as determined from time to time; (v) all manuals, codes, and other procedural literature relating to Central Government offices are required to be prepared both in Hindi and English. All forms, headings of registers, name plates, notice boards and various items of stationery, etc., are also required to be in Hindi and English; (vi) it shall be the responsibility of the officer signing documents specified in Section 3(3) of the Act to ensure that these are issued both in Hindi and English. Besides the above, instructions have been issued to increase the volume of work in all Central Government offices in Hindi. The instructions pertain to training in Hindi language/Hindi typing, stenography, purchase of equipment with bilingual facility, allowing Hindi language in departmental promotion examinations, etc.

In compliance with the Official Language Resolution, 1968, an Annual Programme is prepared by the Department of Official Language each year

in which targets are set for the offices of the Central Government with regard to originating correspondence, telegrams, telex, etc., in Hindi. A Quarterly Progress Report is called for from the offices of the Central Government in regard to the above said targets. An Annual Assessment Report is prepared on the basis of the Quarterly Progress Report which is laid in both Houses of the Parliament and its copies endorsed to State Governments and the ministries/departments of the Central Government. To monitor the implementation of official Language Policy of the Union in Central Government offices, etc., spread all over the country, Regional Implementation Offices have been established at Mumbai, Kolkata, Bangalore, Ghaziabad, Guwahati, Bhopal, Cochin and Delhi. Besides, the Department organises the regional official language conferences to discuss various aspects of the implementation of the official language policy.

TRAINING

Under the Hindi Teaching Scheme, administered by the Department of Official Language, training in Hindi language is being imparted through 73 full-time and 100 part-time centres throughout the country. Like-wise, training in Hindi stenography and Hindi typing is being provided through 17 full-time and 68 part-time centres. The work relating to this scheme is divided amongst five regions. The headquarters of these regions are located in Delhi, Jabalpur, Mumbai, Chennai and Kolkata. The *Kendriya Hindi Prashikshan Sansthan* was established on 31 August 1985 as a subordinate office of the Department of Official Language with the object to provide full-time training as also training through correspondence in Hindi language and Hindi typing. Its sub-institutes were opened in 1988 in Mumbai, Kolkata and Bangalore and in Chennai and Hyderabad in the year 1990. Under these sub-institutes six sub-centres were opened in Trichirapally, Madurai, Coimbatore, Avadi, Tuticorin and Mangalore. Training in Hindi typing, word processing is also imparted through computers in some selected centres.

The Central Translation Bureau was set up for translation of different types of non-statutory literature, manuals/codes, and forms, etc., in respect of various ministries/departments, offices of the Central Government, undertakings, banks, etc. The Bureau has been conducting translation training courses also for the officers/employees connected with the translation work. Earlier this training was being imparted in Delhi alone. But, in order to meet regional requirements, translation-training centres have been opened in Mumbai, Bangalore and Kolkata. The Bureau has recently undertaken the work of preparing monographs on official language, translation and other related subjects.

COMMITTEES/SAMITI

The Committee of Parliament on Official Language was constituted in 1976 under Section 4 of the Official Languages Act, 1963. The Committee comprises of 20 members from the Lok Sabha and 10 from Rajya Sabha. The Committee has so far submitted to the President six parts of its report. The Presidential Orders on the five parts of its report have been issued.

The *Kendriya Hindi Samiti* was constituted in 1967. It is chaired by the Prime Minister. It is the apex policy making body. It lays down guidelines for the propagation and use of the Official Language Hindi. *Hindi Salahakar Samitis* have been constituted in all Ministries/Departments under the Chairmanship of the ministers concerned. These committees review the progress made in the use of Hindi in their respective ministries/departments and their offices/undertakings and suggest measures to promote the use of Hindi.

Besides, the Central Official Language Implementation Committee reviews the position about the use of Hindi for official purposes of the Union, the training of its employees in Hindi and the implementation of instructions issued from time to time by the Department of Official Language and suggests measures for removing the shortcomings noticed in implementing these instructions. 226 Town Official Language Implementation Committees constituted in major towns having Central Government offices in sufficient number review the progress made in the use of Hindi in these offices and exchange experiences.

AWARD SCHEMES

The Indira Gandhi *Rajbhasha* Shield awards scheme has been in operation since 1986-87. Awards are given to Ministries/Departments, banks and financial institutions, public sector undertakings and Town Official Language Implementation Committees for outstanding achievements in the use of Hindi. Cash awards are given to the working/retired employees of the Central Government, banks, financial institutions, universities, training institutions and autonomous bodies of the Central Government for writing original books in Hindi. Regional *Rajbhasha* Awards are given to the Town Official Language Implementation Committees and regional/subordinate offices of the Central Government/public sector undertakings/banks and financial institutions for outstanding achievements in implementing the official language policy and accelerating the progressive use of Hindi. A new awards scheme for promoting book writing in Hindi on all branches of modern knowledge has been introduced from 2001-2002. The scheme is open to all citizens.

PUBLICATIONS

The Department of Official Language brings out *Rajbhasha Bharti*, a quarterly magazine in Hindi. Official Language manual, posters, etc., are also brought out to give information about the activities relating to Official Language. TV/radio spots relating to Hindi are also telecast/relayed. A calendar depicting the use of Hindi in various spheres is also brought out. A number of short films have been produced to popularise and promote Hindi.

COMPTROLLER AND AUDITOR-GENERAL

Comptroller and Auditor-General is appointed by the President. Procedure and grounds for his removal from office are the same as for a Supreme Court

Judge. He is not eligible for further office under the Union or a State Government after he ceases to hold his office. His duties, powers and conditions of service have been specified by the Comptroller and Auditor-General's (Duties, Powers and Conditions of Service) Act, 1971. The President on advice of Comptroller and Auditor-General prescribes the form in which accounts of the Union and states are to be kept. His reports on accounts of the Union and states are submitted to the President and respective governors which are placed before Parliament and state legislatures.

ADMINISTRATIVE REFORMS AND PUBLIC GRIEVANCES

The Department of Administrative Reforms and Public Grievances in the Ministry of Personnel, Public Grievances and Pensions is the nodal agency of the Government of India for Administrative reforms as well as redressal of public grievances relating to the Central Government organisations in particular and State governments and UT administrations in general. The Department provides management consultancy services to Central Government Ministries/Departments. The Department disseminates information on important activities of the Government relating to administrative reforms and public grievances redressal through various publications.

The Department coordinates the efforts to formulate and operationalise Citizen's Charters by the Central Government Ministries/Departments, etc., and their PSUs/autonomous/statutory bodies in various States/UTs in areas in which they provide services to the members of the public. These Charters publicise the commitment of the organisation, the expected standards of service delivery, time frame, grievance redress mechanism, laying their performance open to public scrutiny and ensure accountability. A Core Group has been set up under the Chairmanship of Secretary (Personnel) to review the formulation and implementation of Citizen's Charters by various Central agencies. State governments have also been advised to constitute similar Core Groups for formulation of Citizen's Charters. As a result of the efforts of the Department, 68 Central Charters and 318 Citizen's charters in 20 States/UTs have been formulated.

The Information and Facilitation Counters provide information on procedures and schemes of the concerned organisation as well as access to information pertaining to the status of individual cases. As on date 65 such Counters have been set up in Central Ministries/Departments/organisations.

The existing machinery for public grievance redress has been considerably strengthened through reviews which are being carried out by a Standing Committee of Secretaries for Public Grievance Redress set up by the Government under the Chairmanship of Cabinet Secretary. A compilation of the Guidelines for Public Grievance Redress issued by the Department is available on demand.

A High-Powered Committee (HPC) under the Chairmanship of Cabinet Secretary has been set up with the specific objective of improving administrative efficiency by using Information Technology in Government. As information technology gradually permeates the working of the Central Government, a Minimum Agenda for e-governance has been drawn up.

Documentation and dissemination of good practices in order to encourage replication of success stories is being promoted. A documentary series to showcase best practices, in the application of Information Technology in the service of the people, is on the anvil.

The Department brings out the following publications: (i) Civil Services News (a monthly newsletter); and (ii) Management in Government (a quarterly journal).

The Ministry of Personnel, Public Grievances and Pensions is an institutional member of Commonwealth Association for Public Administration and Management (CAPAM) since 1997. CAPAM has started its Biennial International Innovations Awards Programme since 1998. Under this programme for 2000, the entry from India titled 'Malappuram Community Based Nutrition Project of Kerala Government,' Kudumbashree State Poverty Eradication Mission), bagged the Gold Medal.

Ministry of Personnel, Public Grievances and Pensions is also an institutional member of International Institute of Administrative Sciences (IIAS), Brussels, Belgium. The second specialised international conference of the institute on 'Towards a Quality Public Administration for Sustainable Growth and Development' is scheduled to be held in New Delhi from 5-9 November 2002.

ADMINISTRATIVE TRIBUNALS

The enactment of Administrative Tribunals Act in 1985 opened a new chapter in the sphere of administering justice to the aggrieved government servants. Administrative Tribunals Act owes its origin to Article 323-A of the Constitution which empowers Central Government to set up by an Act of Parliament, Administrative Tribunals for adjudication of disputes and complaints with respect to recruitment and conditions of service of persons appointed to the public service and posts in connection with the affairs of the Union and the States. In pursuance of the provisions contained in the Administrative Tribunals Act, 1985, the Administrative Tribunals set up under it exercise original jurisdiction in respect of service matters of employees covered by it. As a result of the judgement dated 18 March 1997 of the Supreme Court, the appeals against the orders of an Administrative Tribunal shall lie before the Division Bench of the concerned High Court.

The Administrative Tribunals are distinguishable from the ordinary courts with regard to their jurisdiction and procedure. They exercise jurisdiction

only in relation to the service matters of the litigants covered by the Act. The procedural simplicity of the Act can be appreciated from the fact that the aggrieved person can also appear before it personally. The Government can present its case through its departmental officers or legal practitioners. Only a nominal fee of Rs 50 is to be paid by the litigants for filing the application before the Tribunal. Thus, the objective of the Tribunal is to provide for speedy and inexpensive justice to the litigants.

The Act provides for establishment of Central Administrative Tribunal (CAT) and the State Administrative Tribunals. The CAT was set up on 1 November 1985. Today, it has 17 regular benches, 15 of which operate at the principal seats of High Courts and the remaining two at Jaipur and Lucknow. These Benches also hold circuit sittings at other seats of High Courts. In brief, the tribunal consists of a Chairman, Vice-Chairmen and Members. The Members are drawn both from judicial as well as administrative streams so as to give the Tribunal the benefit of expertise both in legal and administrative spheres. The sanctioned strength of the Chairman, Vice-Chairmen and Members of the Central Administrative Tribunal at present is as follows: Chairman-one, Vice-Chairmen-16 and Members-49.

State Administrative Tribunals have been set up under the Administrative Tribunals Act by the Governments of the following States : Andhra Pradesh, Himachal Pradesh, Orissa, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu and West Bengal. Gujarat and Punjab have also decided to set up State Administrative Tribunals in near future.

THE STATES

The system of government in states closely resembles that of the Union.

EXECUTIVE

GOVERNOR

State executive consists of Governor and Council of Ministers with Chief Minister as its head. Governor of a state is appointed by the President for a term of five years and holds office during his pleasure. Only Indian citizens above 35 years of age are eligible for appointment to this office. Executive power of the State is vested in Governor.

Council of Ministers with Chief Minister as head, aids and advises Governor in exercise of his functions except in so far as he is by or under the Constitution required to exercise his functions or any of them in his discretion. In respect of Nagaland, Governor has special responsibility under Article 371 A of the Constitution with respect to law and order and even though it is necessary for him to consult Council of Ministers in matters relating to law and order, he can exercise his individual judgement as to the action to be taken.

Similarly, in respect of Arunachal Pradesh, Governor has special responsibility under Article 371H of the Constitution with respect to law and order and in discharge of his functions in relation thereto. Governor shall, after consulting Council of Ministers, exercise his individual judgement as to the action to be taken. These are, however, temporary provisions if President, on receipt of a report from governor or otherwise is satisfied that it is no longer necessary for Governor to have special responsibility with respect to law and order, he may so direct by an order.

Likewise, in the Sixth Schedule which applies to tribal areas of Assam, Meghalaya, Tripura and Mizoram as specified in para 20 of that Schedule, discretionary powers are given to Governor in matters relating to sharing of royalties between district council and state government. Sixth Schedule vests additional discretionary powers in Governors of Mizoram and Tripura in almost all their functions (except approving regulations for levy of taxes and money lending by non-tribals by district councils) since December 1998. In Sikkim, Governor has been given special responsibility for peace and social and economic advancement of different sections of population.

All Governors while discharging such constitutional functions as appointment of Chief Minister of a state or sending a report to President about failure of constitutional machinery in a state or in respect of matters relating to assent to a Bill passed by legislature, exercise their own judgement.

COUNCIL OF MINISTERS

The Chief Minister is appointed by the Governor who also appoints other ministers on the advice of the Chief Minister. The Council of Ministers is collectively responsible to legislative assembly of the State.

LEGISLATURE

For every state, there is a legislature which consists of Governor and one House or, two Houses as the case may be. In Bihar, Jammu and Kashmir, Karnataka, Maharashtra and Uttar Pradesh, there are two Houses known as legislative council and legislative assembly. In the remaining states, there is only one House known as legislative assembly. Parliament may, by law, provide for abolition of an existing legislative council or for creation of one where it does not exist, if proposal is supported by a resolution of the legislative assembly concerned.

LEGISLATIVE COUNCIL

Legislative Council (*Vidhan Parishad*) of a state comprises not more than one-third of total number of members in legislative assembly of the state and in no case less than 40 members (Legislative Council of Jammu and Kashmir has 36 members vide Section 50 of the Constitution of Jammu and Kashmir). About one-third of members of the council are elected by members of

legislative assembly from amongst persons who are not its members, one-third by electorates consisting of members of municipalities, district boards and other local authorities in the state, one-twelfth by electorate consisting of persons who have been, for at least three years, engaged in teaching in educational institutions within the state not lower in standard than secondary school and a further one-twelfth by registered graduates of more than three years standing. Remaining members are nominated by Governor from among those who have distinguished themselves in literature, science, art, cooperative movement and social service. Legislative councils are not subject to dissolution but one-third of their members retire every second year.

LEGISLATIVE ASSEMBLY

Legislative Assembly (*Vidhan Sabha*) of a state consists of not more than 500 and not less than 60 members (Legislative Assembly of Sikkim has 32 members vide Article 371F of the Constitution) chosen by direct election from territorial constituencies in the state. Demarcation of territorial constituencies is to be done in such a manner that the ratio between population of each constituency and number of seats allotted to it, as far as practicable, is the same throughout the state. Term of an assembly is five years unless it is dissolved earlier.

POWERS AND FUNCTIONS

State legislature has exclusive powers over subjects enumerated in List II of the Seventh Schedule of the Constitution and concurrent powers over those enumerated in List III. Financial powers of legislature include authorisation of all expenditure, taxation and borrowing by the state government. Legislative assembly alone has power to originate money bills. Legislative council can make only recommendations in respect of changes it considers necessary within a period of fourteen days of the receipt of money bills from assembly. Assembly can accept or reject these recommendations.

RESERVATION OF BILLS

The Governor of a state may reserve any Bill for the consideration of the President. Bills relating to subject like compulsory acquisition of property, measures affecting powers and position of High Courts and imposition of taxes on storage, distribution and sale of water or electricity in inter-state river or river valley development projects should necessarily be so reserved. No Bills seeking to impose restrictions on inter-state trade can be introduced in a state legislature without previous sanction of the President.

CONTROL OVER EXECUTIVE

State legislatures, apart from exercising the usual power of financial control, use all normal parliamentary devices like questions, discussions, debates, adjournments and no-confidence motions and resolutions to keep a watch over day-to-day work of the executive. They also have their committees on

estimates and public accounts to ensure that grants sanctioned by legislature are properly utilised.

UNION TERRITORIES

Union Territories are administered by the President acting to such extent as he thinks fit, through an Administrator appointed by him. Administrators of Andaman and Nicobar Islands, Delhi and Pondicherry are designated as Lieutenant Governors, while Administrator of Chandigarh is designated as Chief Commissioner. However, presently, the Governor of Punjab is concurrently the Administrator of Chandigarh. The Administrator of Dadra and Nagar Haveli is concurrently the Administrator of Daman and Diu. Lakshadweep has a separate Administrator.

The National Capital Territory of Delhi and Union Territory of Pondicherry each has a legislative assembly and council of ministers. Legislative assembly of Union Territory of Pondicherry may make laws with respect to matters enumerated in List II or List III in the Seventh Schedule of the Constitution in so far as these matters are applicable in relation to the union territory. The legislative assembly of National Capital Territory of Delhi has also these powers with the exceptions that Entries 1, 2 and 18 of the List II are not within the legislative competence of the legislative assembly. Certain categories of Bills, however, require the prior approval of the Central Government for introduction in the legislative assembly. Some Bills, passed by the legislative assembly of the Union Territory of Pondicherry and National Capital Territory of Delhi are required to be reserved for consideration and assent of the President.

LOCAL GOVERNMENT

MUNICIPALITIES

Municipal bodies have a long history in India. The first such Municipal Corporation was set up in the former Presidency Town of Madras in 1688, and was followed by similar corporations in Bombay and Calcutta in 1726. The Constitution of India has made detailed provisions for ensuring protection of democracy in Parliament and in the state legislatures. However, Constitution did not make the local self-government in urban areas a clear-cut constitutional obligation. While the Directive Principles of State Policy refer to village Panchayats, there is no specific reference to Municipalities except the implication in Entry 5 of the State List, which places the subject of local self-governments as a responsibility of the states.

In order to provide for a common framework for urban local bodies and help to strengthen the functioning of the bodies as effective democratic units of self-government, Parliament enacted the Constitution (74th Amendment) Act, 1992 relating to municipalities in 1992. The Act received the assent of the President on 20 April 1993. The Government of India notified 1 June 1993 as the date from which the said Act came into force. A new part IX-A relating to, allowances and other

perquisites. The law further provided that in case of difference of opinion amongst the Chief Election Commissioner and/or two other Election Commissioners, the matters will be decided by the Commission by majority. The validity of that law [renamed in 1993 as the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991] was challenged before the Supreme Court. The Constitution Bench of the Supreme Court consisting of five judges, however, dismissed the petitions and fully upheld the provisions of the above law by a unanimous judgement on 14 July 1995.

Independence of Election Commission and its insulation from executive interference is ensured by a specific provision in Article 324(5) of the Constitution to the effect that Chief Election Commissioner shall not be removed from his office except in like manner and on like grounds as a judge of the Supreme Court and conditions of his service shall not be varied to his disadvantage after his appointment. The other Election Commissioners cannot be removed from office except on recommendation by the Chief Election Commissioner.

The Chief Election Commissioner and Election Commissioners are entitled to the same salary and other facilities, like rent free accommodation, as are provided to a judge of the Supreme Court. The term of office of the Chief Election Commissioner and other Election Commissioners is six years from the date he assumes office or till the day he attains the age of 65 years, whichever is earlier. Plenary powers and superintendence, direction and control of the preparation of electoral rolls and the conduct of elections vested in the Election Commission under Article 324 of the Constitution are supplemented further by Acts of Parliament, namely, Representation of the People Act, 1950, Representation of the People Act, 1951, Presidential and Vice-Presidential Elections Acts, 1952, Government of Union Territories Act, 1963, Government of the National Capital Territory of Delhi Act, 1991 and the Rules and Orders under them.

REGISTRATION OF POLITICAL PARTIES

Section 29 A of the Representation of the People Act, 1951 provides for registration of political parties by the Election Commission. A party registered with the Election Commission may be granted recognition as a National or State party on the fulfilment of certain criteria based on its poll performance. If a political party fulfills the criteria for recognition under the Election Symbols (Reservation and Allotment) Order, 1968 in four or more states, it is deemed to be a National party. A political party recognised in less than four states is a State party in the state or states in which it is recognised as such. An exclusive symbol is reserved for a National party throughout India. In the case of a State party a symbol is reserved for it in the state or states in which it is so recognised. Such reserved symbols are allotted only to the candidates of the parties for which they are so reserved. At the time of 1999—

general elections, there were six National Parties and 48 States Parties, recognised by the Commission.

ELECTORAL REFORMS

The Election Law has undergone some important changes since 1 August 1996 by the Representation of the People (Amendment) Act, 1996. Some of them are: (i) Disqualification on conviction under the Prevention of Insults to National Honour Act, 1971: Any conviction under section 2 (offence of insulting the Indian National Flag or the Constitution of India) or section 3 (offence) of preventing signing of National Anthem) of the Prevention of Insults National Honour Act, 1971 shall hereafter entail disqualification for contesting elections to Parliament and state legislatures for a period of six years from the date of such conviction; (ii) Increase in security deposits and number of proposers: The amount of security deposit which a candidate at an election to the House of the People or a State Legislative Assembly has to make has been enhanced as a measure to check the multiplicity of non-serious candidates. In the case of an election to the House of the People, the amount of security deposit has been increased from Rs 500 to Rs 10,000 for the general candidates and from Rs 250 to Rs 5,000 for a candidate who is a member of a Scheduled Caste or Scheduled Tribe. In the case of elections to a State Legislative Assembly, the candidates will have to make a deposit of Rs 5,000 if they are general candidates and Rs 2,500 if they belong to a Scheduled Caste or Scheduled Tribe, instead of Rs 250 and Rs 125 respectively as was being previously deposited by them. The amended law further provides that the nomination of a candidate in a Parliamentary or Assembly constituency should be subscribed by 10 electors of the constituency as proposers, if the candidate has not been set up by a recognised National or State party. In the case of a candidate set up by a recognised party only one proposer is sufficient. Minimum interval between the last date for withdrawal and date of poll has been reduced to 14 days instead of 20 days; (iii) Restriction on contesting election from more than two constituencies: A candidate shall hereafter not be eligible to contest election from more than two Parliamentary or Assembly constituencies at a general election or at the bye-elections which are held simultaneously. Similar restrictions will apply for biennial-elections and bye-elections to the council of states and state legislative councils; (iv) Listing of names of candidates: For the purpose of listing of names of candidates, they shall be classified as (a) candidates of recognized political parties, (b) candidates of registered-unrecognised political parties, and (c) other (independent) candidates. Their names in the list of contesting candidates, and in the ballot papers will now appear separately in the above order and in each category they will be arranged in alphabetical order; (v) Death of candidate: Previously, the election was countermanded on the death of a contesting candidate. In future, no election will be countermanded on the death of a contesting candidate. If the deceased candidate, however, was set up by a recognized National or State party, the party concerned will be given an option to nominate another candidate within seven days of the issue of a notice to that effect to the party concerned by the Election Commission; (vi) Prohibition of going armed to or near a polling station:

Going armed with any kind of arms as defined in Arms Act, 1959 within the neighbourhood of a polling station is now a cognizable offence punishable with imprisonment up to two years or with fine or with both. Arms found in possession of the offender shall also be liable to confiscation and licence granted in relation to such arms shall also be deemed to have been revoked. These provisions shall, however, not apply in the case of Returning Officer, Presiding Officer, any police officer or any other person appointed to maintain peace and order at the polling station; (vii) Grant of paid holiday to employees on the day of poll: All registered electors who are employed in any business, trade, industrial undertaking or any other establishment shall be entitled to a paid holiday on the day of poll. Even the daily wagers will receive their wages for the said day. But this will not apply in the case of an elector whose absence may cause danger or substantial loss in respect of the employment in which he is engaged. Any employer contravening the law shall be punishable with fine up to Rs 500; (viii) Prohibition on sale, etc., of liquor: No liquor or other intoxicants shall be sold, given or distributed at any shop, eating place, hotel or any other place, whether public or private, within a polling area during the period of 48 hours ending with the hour fixed for the conclusion of poll. Any person contravening the law shall be punishable with imprisonment up to six months or with fine up to Rs 2,000 or with both; and (ix) Time limit for holding bye-elections: Bye-elections to any House of Parliament or a State Legislature will now be held within six months of occurrence of the vacancy in the House. However, this stipulation will not apply where the remainder of the term of the member whose vacancy is to be filled is less than one year or where the Election Commission, in consultation with the Central Government, certifies that it is difficult to hold the bye-election within the said period.

The President issued an ordinance on 5 June 1997, called the Presidential and Vice-Presidential Elections (Amendment) Ordinance, 1997 whereby number of proposers and seconders for contesting election to the office of the President of India was increased to 50 each in place of ten; number of electors as proposers and seconders for contesting Vice-Presidential election was increased to 20 each in place of five. The amount of security deposit has been increased to Rs 15,000 in place of Rs 2,500 for contesting election to the offices of President and Vice-President.

An ordinance was promulgated to amend section 60 of the Representation of the People Act, 1951 for inserting a new sub-section (c) for making provisions for voting by certain classes of persons through postal ballot. The provision was meant to facilitate right of franchise by migrants from Kashmir Valley in view of the then impending General Elections to the twelfth Lok Sabha.

RESERVATION OF SEATS

The Constitution (Fifty-seventh Amendment) Act, 1987 provides for determination of seats reserved for scheduled tribes in Arunachal Pradesh, Meghalaya, Mizoram and Nagaland by amending Article 332 of the

Constitution. Under the Representation of the People (Amendment) Act, 1987, 59 out of 60 seats in Arunachal Pradesh, 55 out of 60 in Meghalaya, 39 out of 40 in Mizoram and 59 out of 60 in Nagaland were reserved for scheduled tribes. Election Commission has identified 55 reserved seats in Meghalaya, 59 in Nagaland, 59 in Arunachal Pradesh and 39 in Mizoram.

After the Constitution (Sixty-ninth Amendment) Act, 1991, the Union Territory of Delhi became the National Capital Territory of Delhi from 1 February 1992. A legislative assembly with 70 seats was provided in place of 56 metropolitan council seats. Under the Government of National Capital Territory of Delhi Act, 1991, seven out of 70 seats were reserved for scheduled castes.

The Constitution (Seventy-second Amendment) Act, 1992 provides for determination of seats reserved for scheduled tribes in Tripura by amending Article 332 of the Constitution. Under the Representation of the People (Amendment) Act, 1992, three more seats were reserved for STs. The Total number of seats reserved for STs in Tripura became 20 instead of 17 as it was prior to the amendment.

In pursuance of Section 4 of the Jammu and Kashmir Representations of the People Act, 1957, the order made by the Delimitation Commission under clause (d) of sub-section 3 of section 4 of the Act in respect of delimitation of Assembly Constituencies in the State of Jammu and Kashmir was published in the Jammu and Kashmir Government Gazette on 27 April 1995, the seats were increased from 76 to 87 in which seven seats are reserved for scheduled castes.

ELECTRONIC VOTING MACHINES

The Representation of the People Act, 1951 was amended to facilitate use of electronic voting machines in elections by inserting section 61A with effect from 15 March 1989. Electronic Voting Machines (EVMs) were first used in November 1998 in various constituencies in the State elections of Rajasthan, Madhya Pradesh and Delhi. The entire State Assembly elections in Goa in June 1999 were held with EVMs. The Commission continued to hold bye-elections across the country by using EVMs. The Commission procured 1,33,800 number of EVMs during 2001. About 1,55,000 EVMs were used in 2.45 lakh polling stations during elections in 2001.

GENERAL ELECTIONS

First general election in India on the basis of adult suffrage was held in 1951-52. This was a simultaneous election both for the Lok Sabha and all state legislative assemblies (including Part A, B and C states). Second general election held in 1957, shortly after reorganisation of states, was also a simultaneous election. In third general election in 1962, elections to state assemblies of Kerala and Orissa became out of step with general election with the result that simultaneous elections could not be held in these two states. Similarly in 1967, simultaneous elections could not be held in Nagaland and Pondicherry along with fourth general election to the Lok Sabha. After 1967,

56 election to most of the assemblies with the results in Andhra Pradesh, Arunachal Pradesh, Karnataka, Maharashtra and Sikkim. Elections to constitute new assemblies of Bihar, Haryana, Manipur and Orissa were held on 12, 17 and 22 February 2000. A general election for the legislative assemblies of Assam, Kerala, Tamil Nadu, West Bengal and the Union Territory of Pondicherry were held on 10 May 2001. Elections to the Lok Sabha were held simultaneously in West Goa, Daman and Diu and Pondicherry Territories except Assam and Punjab. Simultaneous election was also held in Manipur, Arunachal Pradesh and simultaneously.

The term of eighth Lok Sabha election to the ninth Lok Sabha was except in Assam where revision of Simultaneous election was also held in Pradesh, Goa, Karnataka, Sikkim and

The ninth Lok Sabha did not dissolved on 12 March 1991. Elections except six seats in Jammu and Kashmir on 20 May, 8, 12 and 15 June 1991. Assemblies of Assam, West Bengal, U and Pondicherry. Bye-election in was held on 16 November. Seats in 14 states and assembly seats in Punjab were held

The term of the tenth Lok Sabha election to the eleventh Lok Sabha was 30 May 1996. Simultaneous election assemblies in Kerala, Tamil Nadu, Pondicherry. Assembly election in the on 7, 16, 21 and 30 September 1996 a election to constitute new assembly September, 3 and 7 October 1996. Election in Punjab was also held on 7 February

The term of the eleventh Lok Sabha general elections to the twelfth Lok Sabha and 7 March 1998 for 539 Parliamentary and state legislative assemblies of Madhya Pradesh, Rajasthan were held on 25 November

The term of the twelfth Lok Sabha elections to the thirteenth Lok Sabha were held on 13 and 3 October 1999. Elections for Goa, Karnataka, Kerala, Tamil Nadu, West Bengal, U and Pondicherry were held on 13 June 1999. On 28 October 1999 poll in one constituency of Assam took place. For the Outer Manipur seat. Simultaneous

TABLE 3.1 : LOK SABHA AND ITS SPEAKER(S) FROM TIME TO TIME

LOK SABHA	SPEAKER ¹				
	Date of first meeting after its constitution	Date of dissolution	Name	From	To
First Lok Sabha	13 May 1952	4 April 1957 ²	Ganesh Vasudev Mavalankar	15 May 1952	27 February 1956 ³
Second Lok Sabha	10 May 1957	31 March 1962 ⁴	M. Ananthasayanam Ayyangar	8 March 1956	10 May 1957
Third Lok Sabha	16 April 1962	3 March 1967 ⁵	M. Ananthasayanam Ayyangar	11 May 1957	16 April 1962
Fourth Lok Sabha	16 March 1967	27 December 1970 ⁶	Hukam Singh	17 April 1962	16 March 1967
Fifth Lok Sabha	19 March 1971	18 January 1977 ⁸	Neelam Sanjiva Reddy	17 March 1967	19 July 1969 ⁷
			Gurdial Singh Dhillon	8 August 1969	19 March 1971
			Gurdial Singh Dhillon	22 March 1971	1 December 1975 ⁹
Sixth Lok Sabha	25 March 1977	22 August 1979 ¹⁰	Bali Ram Bhagat	5 January 1976	25 March 1977
			Neelam Sanjiva Reddy	26 March 1977	13 July 1977 ¹¹
Seventh Lok Sabha	21 January 1980	31 December 1984 ¹²	K.S. Hegde	21 July 1977	21 January 1980
Eighth Lok Sabha	15 January 1985	27 November 1989 ¹³	Bal Ram Jakhar	22 January 1980	15 January 1985
Ninth Lok Sabha	18 December 1989	13 March 1991 ¹⁴	Bal Ram Jakhar	16 January 1985	18 December 1989
Tenth Lok Sabha	9 July 1991	10 May, 1996	Rabi Ray	19 December 1989	9 July 1991
Eleventh Lok Sabha	22 May 1996	4 December, 1997 ¹⁵	Shivraj V. Patil	10 July 1991	22 May 1996
Twelfth Lok Sabha	23 March 1998	26 April 1999 ¹⁶	P.A. Sangma	23 May 1996	23 March 1998 (FN)
Thirteenth Lok Sabha	20 October 1999	—	G.M.C. Balayogi	24 March 1998	20 October 1999 (FN)
			G.M.C. Balayogi	22 October 1999	Till date

¹ Under Article 94 of the Constitution, in case of dissolution of the Lok Sabha, the Speaker does not vacate his office until immediately before the first meeting of the House after dissolution.

² Dissolved 38 days before expiry of its term.

³ Died.

⁴ Dissolved 40 days before expiry of its term.

⁵ Dissolved 44 days before expiry of its term.

TABLE 3.1 (Contd.)

- ⁶ Dissolved one year and 79 days before expiry of its term.
- ⁷ Resigned.
- ⁸ Term of the Lok Sabha which was to expire on 18 March 1976 was extended by one year upto 18 March 1977 by the House of the People (Extension of Duration) Act, 1976. It was extended for a further period of one year upto 18 March 1978 by the House of the People (Extension of Duration) Amendment Act, 1976. However, the House was dissolved after having been in existence for a period of five years, 10 months and six days.
- ⁹ Resigned.
- ¹⁰ House was dissolved after having been in existence for a period of two years, four months and 28 days.
- ¹¹ Resigned.
- ¹² Dissolved 20 days before expiry of its term.
- ¹³ Dissolved 48 days before expiry of its term.
- ¹⁴ Dissolved after having been in existence for a period of one year, two months and 25 days.
- ¹⁵ House was dissolved after having been in existence for a period of one year, six months and 13 days.
- ¹⁶ House was dissolved after having been in existence for a period of one year, one month and four days.

TABLE 3.2 : STATE-WISE ALLOCATION OF SEATS IN THE TWO HOUSES OF PARLIAMENT AND PARTY POSITION IN LOK SABHA (As on 30 September 2001)

[illegible]

TABLE 3.2 (Contd.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Uttaranchal	3	5	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uttar Pradesh	31	80	25	8	-	-	-	26	-	14	-	-	-	-	-	-	-	5 ⁵	1	1
West Bengal	16	42	2	3	21	-	-	-	-	-	-	-	-	-	9	-	-	7 ⁶	-	-
Nominated	12	2	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
UNION TERRITORIES																				
A & N Islands	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Chandigarh	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dadra & Nagar Haveli	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Daman & Diu	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
The NCT of Delhi	3	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lakshadweep	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pondicherry	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	245	545	181	111	32	29	26	15	14	12	12	12	11	10	9	8	6	58	6	5

1 All India Majlis-e-Itehadul Mushimeen-1

2 Communist Party of India (Marxist Leninist)-1

3 Lok Jan Shakti Party-3, Rashtriya Janata Dal-4, Rashtriya Janata Dal (Democratic)-2

4 Indian National Lok Dal-5

5 Himachal Vikas Congress-1

6 Jammu & Kashmir National Conference-4

7 Rashtriya Janata Dal (Democratic)-1

8 Lok Jan Shakti Party-1

9 Muslim League-2, Indian Federal Democratic Party-1, Kerala Congress-1

10 Bhariya Bahujan Mahasangh-1, Janata Dal (Secular)-1, Peasants and Workers Party-1

11 Manipur State Congress Party-1

12 Communist Party of India-1, Shiromani Akali Dal-2, Shiromani Akali Dal (Mann)-1,

13 Sikkim Democratic Front-1

14 Pattali Makkal Katchi-5, Marumalarachi Dravida Munnetra Kazhagam-4, MGR All India Anna Dravida Munnetra Kazhagam-1

15 Akhil Bhartiya Loktantrik Congress-2, Rashtriya Lok Dal-2, Samajwadi Janata Party (Rashtriya)-1

16 Revolutionary Socialist Party-3, Communist Party of India-2, All India Forward Block-2

Note : One member expelled from Samajwadi Party and sitting separately w.e.f. 6.2.2001.

4 Defence

INDIA's defence policy aims at promoting and sustaining durable peace in the sub-continent and equipping the defence forces adequately to safeguard aggression.

The Supreme command of the armed forces is vested in the President of India. The responsibility for national defence, however, rests with the Cabinet. The Defence Minister is responsible to Parliament for all matters concerning defence. Administrative and operational control of the armed forces is exercised by the Ministry of Defence and the three services headquarters.

ORGANISATION

The three services function under their respective Chiefs of Staff. As on 31 December 2001, the Chiefs of Staff are:

Chief of Army Staff	:	General S. Padmanabhan
Chief of Naval Staff	:	Admiral Madhvendra Singh
Chief of Air Staff	:	Air Chief Marshal S. Krishnaswamy

ARMY

At the Army headquarters in New Delhi, the Chief of the Army Staff is assisted by the Vice-Chief of the Army Staff and seven other Principal Staff Officers, namely, the two Deputy Chiefs of the Army Staff, Adjutant General, Quarter-Master General, Master General of Ordnance, Military Secretary and Engineer-in-Chief.

The Army is organised into operational Commands. Each Command is under a General Officer Commanding-in-Chief who holds the rank of Lieutenant General. The major field formations are Corps, Division and Brigade commanded by a General Officer Commanding of the rank of Lieutenant General, a General Officer Commanding of the rank of Major General and Brigadier, respectively. The static formations are Area, Independent Sub-Area and Sub-Areas. An Area is commanded by a General Officer Commanding of the rank of Major General and an Independent Sub-Area and Sub-Area by a Brigadier.

The Army consists of a number of arms and services. These are Armoured Corps, Regiment of Artillery, Corps of Air Defence Artillery, Army Aviation Corps, Corps of Engineers, Corps of Signals, Mechanised Infantry, Infantry, Army Service Corps, Military Nursing Service, Army Medical Corps, Army Dental Corps, Army Ordnance Corps, Corps of Electrical and Mechanical Engineers, Remount and Veterinary Corps, Military Farms Service, Army Education Corps, Intelligence Corps, Corps of Military Police, Judge Advocate

General Department, Army Physical Training Corps, Pioneer Corps, Army Postal Service, Territorial Army and Defence Security Corps. In addition, the Army has its own Recruiting Organisation, Record Offices, Depots, Boys Establishments and Selection Centres and Training institutions.

NAVY

India sits astride the major sea routes of the world. It has a coastline of 7,516 km with a total of 1,197 island territories in the Bay of Bengal and the Arabian Sea. India has an Exclusive Economic Zone (EEZ) of 2.02 million sq km. 97 per cent of India's trade amounting to 273 million tonnes and valued at \$ 83 billion annually comes from the seas. The responsibility for the defence and security of the maritime interests and assets devolves upon the Indian Navy.

The Navy is headed by the Chief of the Naval Staff at the Naval headquarters, New Delhi. He is assisted by four Principal Staff Officers, namely, Vice-Chief of Naval Staff, Deputy Chief of Naval Staff, Chief of Personnel and Chief of Material.

The Navy has three Commands, *i.e.*, Western, Eastern and Southern with their headquarters at Mumbai, Visakhapatnam and Kochi respectively. Each Command is headed by a Flag Officer Commanding-in-Chief of the rank of Vice-Admiral. The Western and the Eastern Commands are the operational Commands, while the Southern Command is responsible for training. Indian Navy has two fleets, the Western and the Eastern Fleet comprising ships and aircraft. Goa and Arkonnam are the major Naval air bases. The Navy also has air bases at Visakhapatnam, Port Blair and Car Nicobar. The major naval bases are located in the three Command headquarters and other minor naval establishments are in Chennai, Kolkata, Chilka LonaVala and Jamnagar.

Indian Navy is a three-dimensional force consisting of sophisticated missile-capable warships and aircraft. The Indian Naval inventory includes submarines aircraft carriers, guided missile destroyers, frigates and corvettes. Modern dockyard facilities of the Navy and the PSU shipyards maintain and support the naval forces.

COAST GUARD

The Indian Coast Guard came into being on 1 February 1977 and was constituted as an independent Armed Force of the Union of India with the enactment of CG Act 1978 on 18 August 1978. The Coast Guard's broad Charter of Duties includes: (a) Safety and protection of offshore installations and artificial islands; (b) Providing protection to fishermen in distress; (c) Protection of maritime environment; (d) Assisting Customs in anti-smuggling operation; (e) Enforcement of MZI Act; (f) Safety of life and property at sea; and (g) Prevention and Control of Marine Pollution.

The Director General Coast Guard under the Ministry exercises the general superintendence, direction and control of the Coast Guard Defence.

The entire coastline of India and the national maritime zones have been divided into three Coast Guard regions, namely, Western, Eastern and Andaman and Nicobar Islands, under the respective Commander of the Region. The Regional Headquarters are located at Mumbai, Chennai and Port Blair.

The Coast Guard Regions are divided into eleven Coast Guard Districts covering our maritime states. There are five District headquarters on the West—Porbandar, Mumbai, Goa, New Mangalore and Kochi, four on the East—Chennai, Visakhapatnam, Paradip and Haldia and two in Andaman and Nicobar islands—Diglipur and Campbell bay. In addition, there are Coast Guard Stations and Air Enclaves at various locations.

Working with two frigates and five Seaward Defence Boats (SDBs), the Coast Guard Service has made rapid progress in the last 24 years. The service has developed into a full-fledged maritime organisation with three Offshore Patrol Vessels (AOPVs), nine Offshore Patrol Vessels (FPVs), 23 Interceptor Boats (IBs) and Interceptor Boats, two Hovercrafts, 17 Dornier Aircrafts and 17 Chetak Helicopters. In addition, four hovercrafts, two Fast Patrol Vessels, two Interceptor Boats, one Offshore Patrol Vessel, and additional seven Dornier would be inducted by April 2002. Induction of one Advance Offshore Patrol Vessel, one Control Vessels, four Advanced Light Helicopters and three surveillance Aircraft have also been approved in the Coast Guard development plan 1997-2002.

The Air Staff at Air headquarters in New Delhi is assisted by the Chief of Air Staff responsible for operations while the Deputy Chief of Air Staff is responsible for acquisition and planning. The Inspector General of Air Safety and Inspection, while Air Officer-in-charge Maintenance is responsible for the maintenance of aircraft and other equipment for air operations. The Air Officer-in-charge Administration looks after all administrative matters excepting matters connected with personnel administration. The Air Officer-in-charge Personnel assists the Chief of Air Staff on all aspects of personnel administration including training.

The recruitment and training of the personnel of Indian Air Force has been diversified and specialised. The Service has opened its doors to women officers in all its branches including flying branch. On 15 August 1992, the first batch of women pilots was commissioned. Since then, women are serving in front-line transport and helicopter squadrons. They are also serving in technical, administrative, education, communication, traffic/flight controller branches. Thus, nearly all branches of the Indian Air Force have women officers serving alongside their male counterparts.

There are five operational and two functional commands. The five operational commands are the Western Air Command with its headquarters at Ahmednagar, Eastern Air Command with its headquarters in Gandhinagar,

the Central Air Command with its headquarters at Allahabad. The Eastern Air Command has its headquarters at Shillong and the Southern Air Command has its headquarters in Thiruvananthapuram. The functional commands are the Training Command with its headquarters at Bangalore and the Maintenance Command with its headquarters at Nagpur.

The Air Force in its inventory has a wide array of modern aircraft and support equipment, weapon systems, communications and detection systems, which gives it formidable offensive and defensive capability in any dimension. The teeth of the Air Force are its air-superiority fighters, multi role combat, and strike/air defence/reconnaissance aircraft. A few older generation aircraft like the *Hunter* and the *Canberra* are still in service with the IAF for limited operational roles.

COMMISSIONED RANKS

The following are the commissioned ranks in the three services; each rank is shown opposite its equivalent in the other service:

Army	Navy	Air Force
General	Admiral	Air Chief Marshal
Lieutenant General	Vice Admiral	Air Marshal
Major General	Rear Admiral	Air Vice Marshal
Brigadier	Commodore	Air Commodore
Colonel	Captain	Group Captain
Lieutenant Colonel	Commander	Wing Commander
Major	Lieutenant Commander	Squadron Leader
Captain	Lieutenant	Flight Lieutenant
Lieutenant	Sub Lieutenant	Flying Officer

RECRUITMENT

The Armed Forces epitomise the ideals of service, sacrifice, patriotism and our country's composite culture. The recruitment to the Armed Forces is voluntary and every citizen of India, irrespective of his caste, class, religion and community is eligible for recruitment into the Armed Forces provided he meets the laid down physical, medical and educational criteria. Recruitment into the Army is carried out according to Recruitable Male Population of each state.

INDUCTION OF WOMEN INTO THE ARMED FORCES

Eligible women are recruited as officers on Short Service Commission basis in the following Branches of the Armed Forces: ARMY : EME, Signals, Engineers, Army Education Corps, Army Ordnance Corps, Army Service Corps, Intelligence and Judge Advocate General's Branch; NAVY : All Branches of the Indian Navy; and AIR FORCE : Flying, Aeronautical

Engineering (Electronics), Aeronautical Engineering (Mechanical), Education, Administration, Logistics, Accounts and Meteorology.

RECRUITMENT OF COMMISSIONED OFFICERS

Recruitment of Commissioned Officers in the Armed Forces is mainly through the Union Public Service Commission (UPSC). Recruitment for Technical Branches, women special entry scheme, NCC special entry scheme and service entries is made directly through the respective Recruiting Directorates for the Army, the Navy and the Air Force.

The UPSC holds an all-India competitive examination, known as the Combined Defence Services Examination (CDSE), twice a year. University graduates are eligible to appear in the examination.

Successful candidates join the respective training academies, viz., the Indian Military Academy (IMA) for the Army, the Naval Academy for the Navy and the Air Force Academy for the Air Force. The UPSC also holds an examination for entry into the National Defence Academy (NDA) twice a year. Candidates on completion of the 10+2 examination or while in the 12th standard, are eligible to compete in this examination. The successful candidates on completion of their NDA course are sent to the respective service academies for pre-commission training.

Recruitment through Service Selection Boards/Air Force Selection Board is made for the following branches of the Army, Navy and Air Force: ARMY : All Arms and Services; NAVY : Electrical Engineering, Engineering (Naval Architects), Logistics, Law, Education, Air Traffic Control; and AIR FORCE : Aeronautical Engineering (Electronics), Aeronautical Engineering (Mechanical), Education, Administration, Logistics, Accounts and Meteorology.

Final/pre-final year students in engineering disciplines are eligible for induction into the technical branches/services of the Army as Commissioned Officers under the University Entry Scheme.

To alleviate the shortage of Technical Officers (Engineering) in the Army, the Government has approved the Short Service Commission (Technical) Entry Scheme. This envisages recruitment of qualified technical graduates through the SSBs, to attend the Officers Training Academy (OTA), Chennai, after medical tests, for a ten-month course. On completion of training, the successful candidates are inducted as Short Service Commissioned Officers in the technical branches of the Army.

Medical graduates from the Armed Forces Medical College, Pune are directly inducted as permanent Commissioned Medical Officers in the Armed Forces. For recruitment of Regular Commissioned/Short Service Commissioned Medical Officers from the graduates/post graduates of Civil Medical Colleges, the Director General of the Armed Forces Medical Services conducts an all India competitive examination.

University graduates possessing NCC 'C' Certificate with minimum 'B' grading and 50 per cent marks in graduation are inducted in the Navy and

Air Force as Regular Commissioned Officers and as Short Service Commission Officers in the Army. These graduates are exempted from appearing in the CDSE conducted by the UPSC and are selected through the SSBs.

Government has approved the creation of a 6,000-strong Support Cadre of Special Commissioned Officers. These posts will be filled up by eligible JCOs and OR. Under this entry, serving JCOs/NCOs/OR in the age group of 30-35 years, with an Army Senior School Certificate Pass (Class XI CBSE Pattern) qualification, will be eligible for commission after screening/selection through Service Selection Board and a Medical Board. They will undergo a pre-commission training of one year duration. The officers so commissioned will earn promotion up to the rank of Colonel. The rules for substantive promotion and acting promotion will be the same as for regular officers. These officers will be employed in units as sub unit Cadres/QM job/ERE appointments, etc., up to the rank of Major. They will retire at the age of 57 years after serving about 20-25 years as officers. The scheme will not only improve the career prospects of the existing JCOs/NCOs/OR but will also help in making up the deficiency of officers in the Army to a considerable extent.

Under a new scheme which has since been introduced, candidates with 10+2 qualification, after selection through SSB, will be sent for military and engineering training at IMA and the College of Military Engineering, Pune; MCTE, Mhow and MCEME, Secunderabad. Initial one year military training will be followed by Degree Engineering training of four years. This scheme will help in bringing down the deficiency of officers in Technical Arms/Services.

RECRUITMENT OF OTHER RANKS

Recruitment to the Army is carried out according to the Recruitable Male Population (RMP) of each State. The RMP of a state is reckoned to be 10 per cent of the male population of that state. Recruitment of Airmen to the Air Force is done through the Central Airmen Selection Board, located at the Air Force Station, New Delhi. There are 13 selection centres under this Board.

A new system of recruitment has been introduced with effect from 1 April 1998. Under the revised system, recruitment of *jawans* in the Army is carried out through open recruitment rallies planned well in advance, keeping in view the geographical, demographical and topographical considerations. At least one such rally is held each month, combining districts, areas and regions, depending upon the response anticipated. Advance publicity is made of a rally in a particular area/district.

TERRITORIAL ARMY

The Territorial Army is an organisation of units formed by ordinary citizens from all walks of life who generally, while continuing to pursue their normal vocations also volunteer for military service. These citizens on joining the Territorial Army undergo a short period of rigorous training, which makes

them reasonably competent soldiers. Subsequently, they join their units for two months every year for refresher training to keep in touch with the art of soldiering. Whenever a need arises, personnel of the Territorial Army are called up for active service and join their units within a specified time frame. These units now at full strength, are, generally, put through a short period of vigorous training for active service. When on active service, Territorial Army Units are employed on duties in support of the Regular Army. Units of the Territorial Army have participated in wars along with the regular Indian Army. They have been raised to maintain essential services like Railways, Oil Sector and Medical (Departmental Units) during emergencies. Some units formed for national development tasks like re-afforestation and reclamation of wasteland have rendered commendable services.

NATIONAL CADET CORPS

The National Cadet Corps (NCC) established on 15 July 1948 has emerged as the single largest structured youth movement in India. It has 12 lakh boys and girls in the Senior and Junior Divisions in the Army, Navy and Air Force Wings. This strength covers 4.1 per cent of the eligible student population in the country. One lakh additional vacancies have been approved by MoD for enrolment commencing July 2000. Directorate General, NCC located at New Delhi controls and oversees various activities of the NCC through 16 NCC Directorates spread across the country. There is a Central Advisory Committee for the NCC to provide overall policy guidelines. NCC is manned by the service personnel, whole-time NCC officers, teachers/professors and civilians. One lecturer/teacher in each educational institution is appointed Associate NCC officer.

The NCC whose motto is 'Unity and Discipline' has the following aims : (a) to develop qualities of character, courage, comradeship, secular outlook, spirit of adventure and sportsmanship and the ideal of selfless service among the youth to make them useful citizens; (b) to create a human resource of organised, trained and motivated youth to provide leadership in all walks of life including the Armed Forces and to be always available for the service of the nation.

TRAINING INSTITUTIONS

SAINIK SCHOOLS

The scheme to establish Sainik Schools was started in 1961 to broaden the recruitment to the officers cadre of the Defence Forces. Sainik Schools are joint venture of the Central and State Governments. At present 18 Sainik Schools, one each in all major states are administered by the Sainik Schools Society. Boys from a state which does not have a Sainik School of its own are admitted to schools in adjoining states. Sainik Schools are fully residential and admit students in classes VI and IX strictly in order of merit obtained in the All India Sainik School Entrance Examination held in February each year. The Tuition Fee per student is Rs 20,000 per annum. These schools are affiliated to the Central Board of Secondary Education and follow the 10+2 pattern, in science stream.

NATIONAL DEFENCE ACADEMY

The National Defence Academy (NDA), Khadakwasla, is a joint service institution for training young cadets as future officers of the Defence Services. The motto of the Academy is *Sewa Paramo Dharma* (Service Before Self). As part of their training, cadets are provided academic inputs. The syllabus of the Academy has been approved by the Jawaharlal Nehru University for the grant of BA/B.Sc. degree at the time of passing from the Academy. As on date, the strength of cadets is 1,745. This includes 52 cadets from Bhutan, nine from Palestine and eight from Maldives.

INDIAN MILITARY ACADEMY

The Indian Military Academy (IMA), Dehradun, established in 1932, caters training to cadets for commission into the Army. The training enables the Gentlemen Cadets to develop intellectual, moral and physical qualities through basic military training and broad academic education; qualities of dynamism, initiative and understanding which form the very basis of leadership, in war as well as in peace. The motto of the Academy is *Veerta Aur Vivek* (Valour and Wisdom). The present strength of IMA is 1,298.

OFFICERS TRAINING ACADEMY

The Officers Training Academy (OTA), Chennai, imparts pre-commission training for the following courses : (a) Short Service Commission Course of 44-weeks for university graduates who qualify in the Union Public Service Commission; (b) course of six months for lady cadets (Women Special Entry Scheme); and (c) Permanent Commission on Special List PC (SL) to selected service candidates, who qualify after a training of four weeks. Authorised training strength of the Academy is 500. So far 581 lady cadets have been granted Short Service Commission.

RASHTRIYA INDIAN MILITARY COLLEGE

Education on public-school lines is imparted at the Rashtriya Indian Military College, Dehradun, principally for the boys who subsequently desire to join the NDA with a view to obtaining a commission in the Armed Forces. The College admits students in class VIII through a written examination-cum-*viva voce* test conducted under the aegis of the State Governments throughout India twice every year in February and August. The college has the distinction of having had on its rolls three Chiefs of Army Staff and a Chief of Air Staff.

NATIONAL DEFENCE COLLEGE

The National Defence College (NDC) was founded in 1960 to prepare senior Defence and Civil Service officers for a comprehensive understanding of major problems of national security and strategy. The NDC course has been designed to cover socio-political, economic, technological, diplomatic and military dimensions of national security. The course is conducted over 47 weeks through seven main studies and the study tours.

ARMY CADET COLLEGE

Army Cadet College is a wing of IMA which caters to the training of service cadets selected for commission. The academic format is similar to the NDA on the lines of 10+2+3 and the syllabus is common. On completion of the course, these cadets also qualify for a BA/B.Sc. degree recognised by the Jawaharlal Nehru University.

ARMY SCHOOL OF PHYSICAL TRAINING

Army School of Physical Training (ASPT), Pune, was established in 1947. It has training infrastructure to impart systematic and comprehensive instructions on physical training. Selected candidates from all ranks of the Army, students from the police, para-military forces and friendly foreign countries attend various courses on physical training, *yoga*, martial sports and allied subjects at ASPT.

OTHER TRAINING CENTRES AND SCHOOLS

The College of Combat, Mhow, conducts the higher command, senior command and junior command courses for Army officers. It also conducts a Combined Operational Review and Evaluation (CORE) programme for selected senior officers of the rank of Major General and equivalent of the three Services and Formation Commander Orientation Programme (FCOP) for Brigadier and General Officers of the Army once every year. College of Military Engineering, Kirkee (Pune), imparts training to the officers and other ranks in all aspects of military engineering. Long courses of over two year duration are also conducted to train officers up to degree standards. The Military College of Telecommunication Engineering, Mhow imparts basic and advanced technical training in telecommunications and signal tactics. The Armoured Corps Centre and School, Ahmednagar conducts training in tactical handling of armoured fighting vehicles, driving and maintenance. The School of Artillery, Deolali provides training in field branch artillery. The Army/Air Defence College Gopalpur-on-sea trains personnel of the Air Defence Artillery. The High Altitude Warfare School located at Gulmarg and Sonmarg trains personnel in the art of mountain warfare including rock, snow and ice-craft. The Counter Insurgency and General Warfare School, Valrengate trains officers and men in the art of combating insurgency.

Junior Leaders Academy, Bareilly conducts institutionalised leadership and motivational training for junior leaders courses comprising JCOs and senior NCOs of all arms and services with Army.

The Mechanised Infantry Regimental Centre conducts basic and technical training for recruits of mechanised infantry. In addition, it runs basic and instructor courses on anti-tank guided missiles for officers, JCOs and other ranks of mechanised infantry. It also carries out conversion training of units when they are converted to mechanised infantry or when change in equipment is involved. The College of Materials Management, Jabalpur, imparts specialised training in materials management including ammunition and explosives and

also in contemporary materials management techniques. Some of the other Army training centres and schools are Army Service Corps Centre and College, Bangalore; EME School, Vadodara; Military College of Electronics and Mechanical Engineering, Secunderabad; College of Defence Management, Secunderabad; Remount and Veterinary Corps Centre and School, Meerut; Army Education Corps Training College and Centre, Pachmari; Army School of Physical Training, Pune; Army/Air Transport School, Agra; Military Intelligence Training School and Depot, Pune; Corps of Military Police Centre and School, Bangalore; Institute of Military Law, Kamptee; Armed Forces Medical College, Pune; Institute of National Integration, Pune and Army Medical Corps Centre and School, Lucknow.

PRODUCTION AND SUPPLIES

The Department of Defence Production and the Department of Defence Supplies were merged in December 1984 to constitute the present Department of Defence Production and Supplies. The primary role of the Department is to equip the armed forces of the country with the latest equipment and weaponry systems and to contribute to modernisation of armed forces. This task is being undertaken through 39 ordnance factories and eight defence public-sector undertakings.

ORDNANCE FACTORIES

The Ordnance Factories Organisation consists of 39 factories, some of which are the oldest industrial establishments in the country. The Ordnance Factories play a vital role in equipping the armed forces with weapons, ammunitions, tanks, etc. The Ordnance Factories have evolved into a strategic and dedicated production base for lethal and non-lethal defence stores. Investments on their infrastructure stem from national security and strategic needs. The objective of the organisation is to meet the requirements of the armed forces particularly of the army for conventional lethal and non-lethal hardware. Adequate and timely supply of defence stores of stringent quality specification at minimal cost is the primary consideration. The factories produce military transport vehicles, infantry combat vehicles, armoured vehicles, optical and opto-electronic instruments, field cables, summer and winter uniforms, tentages, parachutes, miscellaneous leather goods, floats bridges, general stores, civil blasting explosives, etc. Facilities also exist for design and manufacture of captive special purpose machine tools for production of arms and ammunition components.

Besides supply of arms, ammunition and other items to the Armed Forces, the needs of police and the para military organisations are also catered to. Items are also produced for the Railways, Public Sector Undertakings and other Government departments. The Ordnance Factories have taken up continuous upgradation of products and manufacturing technologies to meet emerging requirements of the defence forces.

SUPPLIES WING

The major functions of Supplies Wing, the nodal agency for evolving purchase policies for the Ministry of Defence are : (a) Identification and Productionisation

of items for import substitution; and (b) Productionisation of DRDO developed items through the private sector industry. In order to encourage civil industry for indigenous development of defence stores, a scheme of National Award for Excellence in Indigenisation was introduced in 1993-94. The efforts made by the industry in substituting the inputs of defence equipment and stores are duly recognised by the Supplies Wing and the deserving units are presented with suitable awards. In this regard, greater emphasis is being laid on implementation of COTS and IT enabled services.

The value of the developmental defence supply orders on the private sector has risen from approximately Rs 60 crore per annum during the early eighties to around Rs 200 crore per annum in recent years. The value of orders placed for *ab initio* development of various defence equipment and stores during 2000-2001 was Rs 186.478 crore and a total number of 1,379 items were indigenised along with 318 systems and sub-systems.

The participation of the civil sector in defence production in recent years has greatly enabled it to upgrade its technological base quality standards. Defence Services, in turn have been able to depend on this sector for a number of assemblies/sub-assemblies. The steps are now being taken to evolve a long term plan of effective government and industry participation to build a strong/versatile, expanded and self-reliant indigenous defence production base.

DEFENCE UNDERTAKINGS

The Defence Public Sector Undertakings (DPSUs) were structured with a flexible form of operation, decentralised management and adequate operational autonomy so as to utilise the defence technological base to a wide and diversified range of applications, in addition to the basic task of catering to the needs of the armed forces.

Eight public-sector undertakings (PSUs) currently function under the Department of Defence Production and Supplies. These are Hindustan Aeronautics Limited (HAL), Bharat Electronics Limited (BEL), Bharat Earth Movers Limited (BEML), Mazgaon Dock Limited (MDL), Garden Reach Shipbuilders and Engineers Limited (GRSE), Goa Shipyard Limited (GSL), Bharat Dynamics Limited (BDL) and Mishra Dhatu Nigam Limited (MIDHANI).

The Hindustan Aeronautics Limited (HAL) was set up in 1964 with its corporate office at Bangalore. The company has 12 divisions located in six States. This is the largest public sector undertaking under the Department of Defence Production and Supplies. Originally incorporated as a private limited company it was converted into a public limited company on 10 July 1995. It is engaged in the design, manufacture, repair and over-haul of aircraft helicopters, aero-engines, avionics, instruments and accessories. HAL has signed a MOU with Boeing USA for supply of high value work packages. All operating divisions of the company have maintained ISO 9001/9002 standard.

The Bharat Electronics Limited (BEL) established in 1954 with its corporate office at Bangalore, has nine units in the country. It is engaged in the design development and manufacture of sophisticated state-of-the-art electronics equipments/components for the use of defence services, para military organisations and other governmental users like All India Radio, Doordarshan, Department of Telecommunications, Police Wireless, Meteorological Department, etc. The BEL is also the premier indigenous source for professional electronic equipment. State-of-the-art manufacturing testing and quality assurance facility has been set up in all units of BEL. On line computerisation for materials management, state-of-the-art test facilities, facilities for carrying out environment and reliability checks electro-magnetic interference/Electro Magnetic Compatibility Testing facility, Antenna Testing facility, back-up support from Standardisation Technical Information and Documentation, Computer Aided Design and Manufacture have made BEL a modern professional Electronic Company. All manufacturing division/units of BEL have been accredited with ISO 9001/ISO 9002.

The Bharat Earth Movers Limited (BEML) was incorporated in May 1964 with its corporate office at Bangalore and commenced operations from 1 January 1965. The production units of the company are located at Bangalore, Kolar Gold Fields(KGF) and Mysore in Karnataka. The company is engaged in the production of rail coaches, rail bus and DC EMUs for Indian Railways, Heavy duty trucks/its variants, crash fire tenders, heavy recovery vehicles, PMS bridges, earth-moving equipment and aggregates for defence. Other major customers of BEML are Coal India Limited, Neyveli Lignite Corporation, Associated Cement Company, Steel Authority of India Limited, the National Hydro Electric Thermal Power Corporation.

The Mazagon Dock Limited, with corporate office at Mumbai, was established on 13 May 1960. The premier defence shipyard in the country, has a capacity to build warships up to 6,000 DWT and merchant ship up to 27,000 DWT. Its product range includes submarines, missile boats destroyers, frigates and corvettes for the Indian Navy and patrol vessels for the Coast Guard. It has diversified products for the oil exploration sector through production and installation of wellhead platforms and diving services for coating/laying sub-sea pipelines. Medium refit and modernisation of submarine *Shishumar* is being undertaken at East yard of the company for the first time in India. The ship-building division of the company has been awarded ISO 9001 certificate. The company has manufactured and supplied B-55 Well Head Platform and 7-Clamp on Project to Oil and Natural Gas Commission.

The Garden Reach Shipbuilders and Engineers Limited (GRSE) was incorporated with its corporate office at Kolkata as a joint stock company in 1934, under the name M/s Garden Reach Workshop Limited (GRW). The Government of India acquired the company in 1960. The company builds and repairs warships and auxiliary vessels for the Navy and the Coast Guard. Its product range includes frigate carrier and oil tankers, patrol vessels, attach craft high technology ship borne equipment, portable Bailey type steel bridges, turbine pumps for the agricultural sector, marine sewage treatment plants,

diesel engines, etc. Chemical Laboratory of GRSE was certified by the National Accreditation Board for Testing Laboratory.

The Goa Shipyard Limited (GSL), located at Vasco-da-Gama primarily builds small and medium size naval vessels and repair/re-fit of ships/vessels. The company has undertaken construction/re-fit of variety of vessels for the Indian Navy and the coast guard as well as for the non-defence sector.

The Bharat Dynamics Limited (BDL) was set up in 1970 with corporate office at Hyderabad for manufacture of guided missiles. It possesses the capability to produce advanced guided missile systems. The company has two units at Kanchanbagh and Medak. The company is the prime production agency for missile weaponry systems. BDL has been accorded ISO 9002 certification.

Mishra Dhatu Nigam Limited, located at Hyderabad was incorporated on 20 November 1973. It manufactures special steel, titanium and super alloys required in the aeronautics, space and atomic energy engineering and communication sectors. The company has been accredited with ISO 9002 certification.

RESEARCH AND DEVELOPMENT

The Defence Research and Development Organisation (DRDO) was set up in 1958, amalgamating the laboratories/establishments of Defence Science Organisation with the technical development establishments of the defence services. A separate Department of Defence Research and Development was formed in 1980.

DRDO today has grown from an agency carrying out science-based technical improvements to the existing systems to high-technology agency capable of undertaking design, development and integration leading to production of world class weapon systems meeting qualitative requirements of the Services. DRDO has now achieved technological self-reliance in ammunition, armoured systems, surface-to-surface missiles, sonar systems, electronic warfare system and parallel computing.

DRDO has developed and led to production of a large number of defence systems, equipments and other products as per requirements of the Armed Forces. These include surface-to-surface missile *Prithvi*, pilotless target aircraft *Lakshya*, electronic warfare systems for the Air Force, 105mm light field gun, 5.56 INSAS rifle, LMG and their ammunition, composite sonar & integrated fire control system *Panchendriya*, sonobuoys, marine acoustic research ship *Sagardhwani*, MBT *Arjun*, 130mm SP gun, 125mm FSAPDS, influence mine, limpet mine, illuminating ammunition, a large variety of fuzes, high speed low drag bombs with RTU, low level radar *Indra*, night vision devices, laser range finders, target designators, advanced computing systems, a number of wargaming simulation software products, sensor materials, electronic devices, meals ready to eat (MRE) and survival rations, extreme cold weather clothing, NBC protective items/shelters and mountaineering equipments.

Pilotless Target Aircraft (PTA) *Lakshya*, a re-usable aerial target system remotely operated from ground is under limited series production and induction. The Army has accorded bulk production clearance for illuminating ammunition (having improved luminosity and duration) for 105mm field gun. Intelligent Sea mines (processor based ground mines and processor based moored mines) have been cleared for productionisation. The first Technology Demonstrator (TD1) Light Combat Aircraft (LCA) was flight tested for the first time on 4 January 2001. The second flight-test of long range surface-to-surface missile *Agni-II* was conducted on 17 January 2001, in its final operational configuration. The multi-span bridging system *Sarvatra* having 5 spans of 15m each and capable of covering 75m obstacle, has been accepted for introduction in the service after mobility, stability and maneuverability of the vehicle was proved. The other major programmes under progress during the year are *Kaveri* engine for LCA, various missiles under IGMDF, multi-barrel rocket system *Pinaka* and EW systems for the Army and Navy.

Meals ready to eat (MRE) and survival rations were supplied for the troops. These rations do not require any cooking as the contents are thermally processed and can be consumed readily with a little warming, if required. Fresh milk and local green-house grown leafy vegetables during frozen winter are being supplied to Siachen troops. Defence personnel who suffered facial injuries during 'Operation Vijay' were rehabilitated using DRDO devices like bone plates and screws. Avalanche forecast warnings were issued with good accuracy for the areas of Jammu and Kashmir including Siachen, Kargil and Mushkoh valley.

RESETTLEMENT AND WELFARE OF EX-SERVICEMEN

In order to maintain the youthful profile of the Armed Forces, approx. 60,000 service personnel are retired/released every year at a comparatively young age. As per statistics a total of 16,09,937 ex-servicemen (ESM) and 3,24,495 widows have been registered and reported to be surviving as on 31 December 2000. The Director General of Resettlement (DGR) under the Ministry of Defence (MoD) looks after all matters connected with resettlement and welfare of ESM and their dependents. A Kendriya Sainik Board (KSB) under the Chairmanship of the Defence Minister has been established for laying down general policies for the welfare of ESM and their dependents for the administration of welfare funds, and also for coordinating the work of the Sainik Boards in the country. At the State level the Rajya Sainik Boards (RSBs) and at the district level the Zila Sainik Boards (ZSBs) have been established. The Government of India bears 50 per cent of the expenditure incurred and the remaining expenditure is borne by the respective State Governments.

RESETTLEMENT

Resettlement activities for the retired/retiring service personnel consist of the following: (a) Training programmes to re-orient retiring Defence personnel towards civil employment; (b) Providing employment opportunities in

government/semi government/public sector organisations; and (c) Schemes for self employment.

TRAINING

For retiring service officers the following training programme were introduced during the year 2000-2001: (a) E-Commerce and Web designing; (b) PG Diploma in Personnel and Industrial Management; (c) WAP with Web designing; (d) Security course in CISF; (e) ISO- 14000; (f) Logistic Management; (g) Lead Auditor Course; and (h) Basic course in Computer including E-Tourism. Duration of various courses has been increased. The vocational training, ITI training and on-the-job training are presently being conducted for retiring Service personnel other than officers. A total of 10,698 personnel were trained during 2000-2001.

EMPLOYMENT

Employment constitutes a major means of rehabilitation of ex-servicemen. To achieve this goal both the Central and State Governments have provided various concessions/facilities. These include reservation of posts, relaxations in age/educational standards, priority in employment, etc. The Central Government has reserved 10 per cent of Group 'C' and 20 per cent of Group 'D' posts for ex-servicemen in Central Ministries/Departments. The percentage of reservation in public sector undertakings and nationalised banks in these categories are 14½ per cent and 24½ per cent respectively. Reservation under the State Government varies from 2 per cent to 20 per cent. There is no reservation for ex-servicemen in Bihar, J&K, Kerala, Meghalaya and Andaman & Nicobar Islands.

DGR has been nominating ESM Security Agencies to various PSUs and private sector organisations. These security agencies provide employment opportunities for officers and other ranks. There are 851 ESM security agencies which are registered with DGR, of which 680 have been sponsored for work. This alone has generated during last five years employment opportunities for 44,685 ex-servicemen and 723 officers.

SCHEMES FOR SELF EMPLOYMENT

Three important schemes for self-employment for ex-servicemen, SEMFEX-I, SEMFEX-II and SEMFEX-III, were launched in collaboration with the Small Industries Development Bank of India, National Bank for Agricultural Rural Development (NABARD) and the Khadi & Village Industries Commission (KVIC) for providing extensive self-employment opportunities for ESM and their dependents.

Under the SEMFEX-I scheme launched in April 1987, financial assistance is provided to ESM to set up small scale industrial projects for self-employment. Loans under this scheme are provided by the respective State Financial Corporation. Up to 31 March 1999, 6,727 beneficiaries were sanctioned loans to the tune of Rs 275.56 crore. No further assistance has been provided as the scheme is under review.

SEMFEX II Scheme (From Arms to Farms) has been promoted with the assistance of National Bank for Agriculture and Rural Development. It provides refinance to Banks for financing for development of agriculture and allied activities. Under this scheme, interest free Soft Loan Assistance for Margin Money (SLA-MM) will be available at the rate of 5 per cent of the total project cost subject to a maximum of Rs 75,000 per project to all ex-servicemen borrowers irrespective of their rank and income, to undertake all schemes under farm and non-farm sectors. The financial assistance of Rs 31.86 crore to 525 beneficiaries was provided under the scheme since its inception up to December 2000.

The SEMFEX-III Scheme (*Sena Se Gramodyog*) was launched to help the ex-servicemen and widows to undertake rural industries in collaboration with the Khadi and Village Industries Commission. There are 115 rural industries including service-sector activities which have been identified for financing to ex-servicemen/widows. Financial assistance of Rs 5.52 crore to 683 beneficiaries was provided under the scheme since its inception and up to December 2000.

National Equity Fund Scheme (*Sena Se Laghudyog*): The scheme provides for equity type support to entrepreneurs for setting up new projects in tiny/small scale sector, for undertaking expansion of existing SSI enterprises and for rehabilitation of viable sick units in the SSI sector which fulfill the specified eligibility criteria. Under the Scheme the project cost ceiling is Rs 50 lakh and soft loan assistance is provided 25 per cent of the project cost subject to a maximum of Rs 10 lakh per project. The promoter's contribution is 10 per cent of the project cost. The lending institutions are : State Financial Corporation, Scheduled Commercial Banks, Select Urban Corporative Banks and State Cooperative Banks. SIDBI's refinance facility is available to these institutions. Since inception the financial assistance of Rs 41.10 lakh has been provided to 13 beneficiaries up to December 2000.

The other self-employment schemes for rehabilitation of ex-servicemen/widows/dependents are : (a) Allotment of Class V-B Vehicles; (b) Coal Transportation Companies; (c) Tipper Scheme for Widows; (d) Allotment of Oil Product Agencies; (e) Price Subsidy for ex-servicemen manufacturing, supplying items to Defence Organisation/CSD; (f) Allotment of typewriters and duplicators; and (g) Allotment of Mother Dairy Milk/DMS Milk Booths and Fruit & Vegetable Booths.

WELFARE

The Kendriya Sainik Board (KSB) under the Chairmanship of the Defence Minister has been established for laying down the general policies of the welfare of ex-servicemen (ESM) and their dependents; for the administration of welfare funds and also for coordinating the work of Rajya Sainik Boards (RSBs) and Zila Sainik Boards (ZSBs). The expenditure on the maintenance of RSBs/ZSBs in the States is shared by the Central and the State Governments in the ratio of 50:50. The KSB also administers Armed Forces Flag Day Fund. Various welfare activities are financed from interest earnings of the fund. The Fund has a corpus of Rs 93.62 crore as on date. Financial assistance is provided

to institutions such as Paraplegic Homes at Kirkee and Mohali, the Red Cross Society, Cheshire Homes, Military Hospitals, St. Dunstan's After Care Organisation and Homes for taking care of old and physically handicapped ESM and their dependents. Financial assistance is also provided to individual ESM and their families to meet specific needs.

Following concessions/facilities are provided to ex-servicemen/dependents through Kendriya Sainik Board:

Education : (a) Reservation in Medical & Engineering Colleges : 28 seats in the MBBS, one seat in BDS and two seats in Engineering Course (Annamalai University) are available through KSB to dependents/wards of certain categories of Defence personnel; and (b) Education grant of Rs 600 p.m. per student is provided to wards of war bereaved, disabled and Rs 300 p.m. in case of wards of attributable peace time casualties, housed in 35 War Memorial Hostels to enable them to pursue their studies.

Medical Facilities : (a) Ex-servicemen suffering from serious diseases are given financial assistance of up to 75 per cent (90 per cent in case of PBORs) of the total expenditure for treatment in civil hospital in case they cannot raise funds from other sources; (b) The leading hospitals throughout the country have been empanelled from where the ex-servicemen can get treatment for serious diseases on payment of 25 per cent (10 per cent in case of PBORs) of the total expenditure; and (c) The Government has sanctioned a fixed medical allowance of Rs 100 p.m. to those ex-servicemen who reside in the areas where facilities of Armed Forces Hospitals/clinics are not available.

Travel Concessions : (a) 75 per cent concession in rail fare for travel in II class and 50 per cent concession in IA is available to war widows including those of IPKF and Op Vijay (Kargil Conflict) casualties; and (b) Free Rail travel in I Class/II AC Class to the recipients of *Chakra* series of gallantry awards and 50 per cent concession by IA on domestic flights to the recipients of *Chakra* and war widows of post-independence era.

Raksha Mantri's Discretionary Fund Grant : The following financial assistance is provided from Raksha Mantri's Discretionary Fund (RMDF) to ex-servicemen and widows of ex-servicemen in penury: (i) Monthly assistance to old infirm ESM/widows for two years - Rs 1,000; (ii) Marriage of daughter of ESM/widows in penury - Rs 8,000; (iii) Repair of house for ESM/widows in penury - Rs 10,000; (iv) Medical Treatment—maximum of Rs 15,000; and (v) Education of children of ESM/widows in penury (maximum of three children up to class XII) - Rs 100 p.m.

Grant for House Repair : Financial assistance is provided to war widows/war disabled for repair of houses on 50 per cent cost sharing basis with State Governments up to Rs 10,000.

5 Education

BEFORE 1976, education was the exclusive responsibility of states. The Central Government was only concerned with certain areas like co-ordination and determination of standards in technical and higher education, etc. In 1976, through the 42nd Constitutional amendment, education was incorporated in the Concurrent List and became a joint responsibility of the Centre and the States. Decisions regarding the organisation and structure of education are largely the concern of the States. However, the Union Government has a clear responsibility regarding the quality and character of education. The objective of incorporating education in the Concurrent List was to facilitate evolution of all-India policies in the field of education. In addition to policy formulation, the Ministry of Human Resource Development (HRD) shares with the states the responsibility for educational planning.

The Central Government continues to play the lead role in the evolution and monitoring of educational policies and programmes, the most notable of which are the National Policy on Education (NPE), 1986, the Programme of Action (POA), 1986 as updated in 1992. The NPE envisages a national system for education, which would take determined steps for the universalisation of primary education and the spread of adult literacy. It was based on a national curricular framework which contains a common core along with other, flexible, region-specific components. The common core cuts across subject areas and was designed to promote values such as India's common cultural heritage, egalitarianism democracy and secularism, equality of the sexes, protection of the environment, removal of social barriers, observance of the small family norm and inculcation of the scientific temper. While the Policy stresses widening of opportunities for the masses, it calls for consolidation of the existing system of higher and technical education. It also emphasises the need for a much higher level of investment in education of at least six per cent of the national income. The POA lays down a detailed strategy for the implementation of the various policy parameters by the implementing agencies.

EXPENDITURE

The National Policy on Education, 1986 and the Programme of Action (POA) 1992 envisage free and compulsory education of satisfactory quality for all children up to the age of 14 years before the commencement of the 21st century. As per the commitment of the Government, about six per cent of the Gross Domestic Product (GDP) would be earmarked for Education sector and 50 per cent of the outlay would be spent on Primary Education.

With the commitment of augmenting resources for education, the allocation for education has, over the years, increased significantly. Plan outlay on education increased from Rs 153 crore in the First Five Year Plan to

Rs 7,443 crore in the Eighth Five Year Plan (1992-97). The expenditure on Education as a percentage of GDP also rose from 0.7 per cent in 1951-52 to 3.94 per cent in 1999-2000 (BE).

The Ninth Five Year Plan for Education in the Central Plan is higher than corresponding the Eighth Plan outlay by 2.7 times. The outlay for Education Sector for Ninth Plan under Central Plan is Rs 20,381.64 crore (against Rs 7,443 crore for Eighth Plan). It excludes the sum of Rs 4,526.74 crore for Nutritional Support to Primary Education (Mid Day Meals) for the last three years of the Ninth Plan. The Central Plan outlay for education has been substantially increased from Rs 1,825 crore in 1995-96 to Rs 5,450 crore in 2000-2001 and Rs 5,920 crore in 2001-2002 (Rs 4,000 crore is for Department of Elementary Education and Literacy and Rs 1,920 crore for Department of Secondary & Higher Education).

The outlay on elementary education is 64.19 per cent of the total Central Sector Plan outlay in 2001-2002. Further the outlay for the Department of Secondary & Higher Education includes Rs 648 crore for Secondary Education, Rs 575 crore for University and Higher Education and Rs 575 crore for Technical Education. Plan expenditure on different sectors of education is given in table 5.1.

ELEMENTARY EDUCATION

Universalisation of Elementary Education (UEE) has been accepted as a national goal. The Ninth Five Year Plan envisages UEE to mean universal access, universal retention and universal achievement. As a result of the efforts made by the Central and State governments, 94 per cent of country's rural population have primary schools within one km. At the upper primary stage 84 per cent of the rural population have schools within a distance of three km. Enrolment ratio at primary stage has gone up from 42.60 per cent in 1950-51 to 94.90 per cent in 1999-2000; number of primary and upper primary schools has gone up from 2.23 lakh in 1950-51 to 8.39 lakh in 1999-2000 and number of teachers in primary and upper primary schools has also gone up from 6.24 lakh in 1950-51 to 32.17 lakh in 1999-2000.

The Central and State governments have over a period of time evolved strategies to check drop-out rates and improve levels of achievements in the schools, the key elements of which include : (i) creating parental awareness and community mobilisation; (ii) involvement of communities and PRIs (73rd and 74th Constitutional Amendments); (iii) economic incentives; (iv) improvement in the infra-structural facilities in schools; (v) District Primary Education Programme initiative; (vi) National Programme of Nutritional Support to Primary Education (Mid-day Meals Scheme); (vii) Non-Formal Education (NFE Scheme) and (viii) Teacher Education Schemes.

The Constitution (Eighty-third Amendment) Bill, 1997 was introduced in the *Rajya Sabha* on 28 July 1997 to make right to free and compulsory education for children from 6-14 years of age a Fundamental Right. The

ELEMENTARY EDUCATION IN INDIA

PROGRESS OF ENROLMENT

LAKH PERSONS

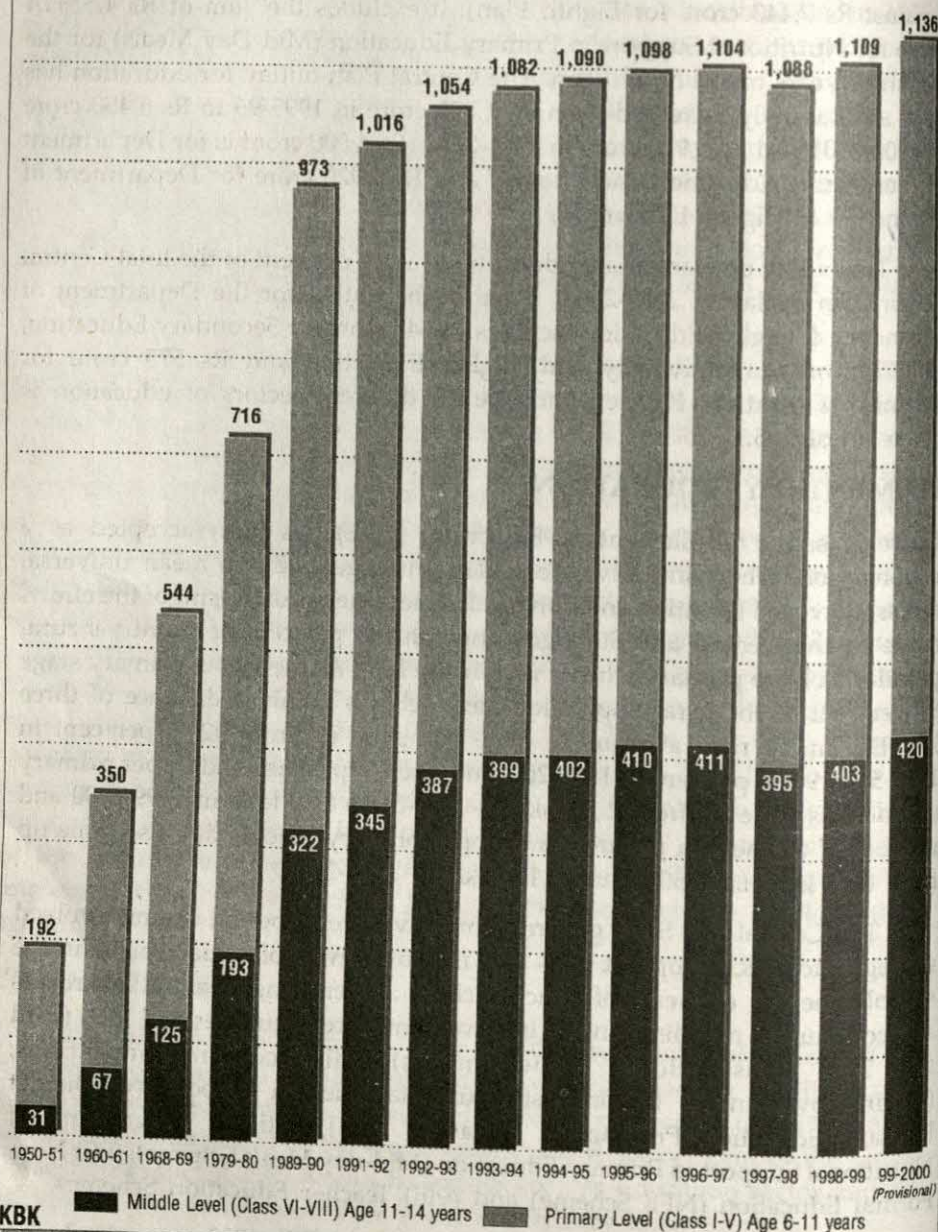


TABLE 5.1 : PLAN EXPENDITURE ON DIFFERENT SECTORS OF EDUCATION

Sector	First Plan Expendt. 1951-56	Second Plan Expendt. 1956-61	Third Plan Expendt. 1961-66	Plan Holiday Expendt. 1966-69	Fourth Plan Expendt. 1969-74	Fifth Plan Expendt. 1974-79	Sixth Plan Expendt. 1980-85	Seventh Plan Expendt. 1985-90	1990-92 Expendt.	Eighth Plan Outlay 1992-97	Ninth Plan Outlay (1997-2002) (Central Sector)
Elementary Education	56 (850)	35 (950)	34 (2010)	24 (750)	30 (2390)	35 (3170)	33 (8360)	37 (28490)	37 (17290)	47 (92010)	58 (118428) ¹
Secondary Education	13 (200)	19 (510)	18 (1030)	16 (530)	18 (1400)	17 (1560)	21 (5300)	24 (18320)	22 (10530)	18 (34980)	13 (26035)
Adult Education							9 (2240)	6 (4700)	9 (4160)	9 (18480)	3 (6304)
Higher Education	9 (140)	18 (480)	15 (870)	24 (770)	25 (1950)	22 (2050)	22 (5590)	16 (12010)	12 (5880)	8 (15160)	12 (25000)
Others	9 (140)	10 (300)	12 (730)	11 (370)	14 (1060)	14 (1060)	4 (1080)	3 (1980)	2 (1180)	4 (7510)	2 (4314)
Technical Education	13 (200)	18 (490)	21 (1250)	25 (810)	13 (1060)	12 (1070)	11 (2730)	14 (10830)	17 (8230)	14 (27860)	12 (23735)
Total	100 (1530)	100 (2730)	100 (5890)	100 (3230)	100 (7860)	100 (9120)	100 (25300)	100 (76330)	100 (47270)	100 (196000)	100 (203816) ¹

Note : Figures in parenthesis in millions of rupees.

¹ Excludes the sum of Rs 4,526.74 crore for Nutritional support to Primary Education (Mid Day Meals) for the last three years of the Plan

Source : Dr R.V. Vaidyantha Ayyar. Educational Planning and Administration in India : Retrospect and Prospect, Journal of Educational Planning and Administration, Vol. VII, Number 2, NIEPA, New Delhi.

Parliamentary Standing Committee on HRD proposed some modifications in the Amendment Bill. Accordingly a revised Draft Constitution Amendment Bill is under consideration of the Government.

Based on the recommendations of the National Committee of State Education Ministers, a new Scheme *Sarva Shiksha Abhiyan* (SSA) has been evolved to pursue universal elementary education in a mission mode. The goals of SSA are : that all 6-14 age children (i) are in school/EGS centre/bridge course by 2003; (ii) complete five year primary education by 2007 and (iii) complete eight years of schooling by 2010.

The Ministry has released grants amounting to Rs 88.50 crore to 28 States/UTs for starting preparatory activities in 225 non-DPEP districts and 12 DPEP districts. The guidelines finalised for SSA have been sent to the States/UTs. A National Level Mission has been set up under the Chairmanship of Prime Minister vide resolution dated 2 January 2001. The States have been requested to formulate and submit District Elementary Education Plans.

The media publicity and advocacy plan is being launched for universalisation of elementary education as a part of *Sarva Shiksha Abhiyan*. It will focus on the right of every child to elementary education. Besides radio and television, the media campaign would use traditional and folk forms of communication. The print media would also be fully used to promote education for all.

NON FORMAL EDUCATION

The Scheme of Non-Formal Education (NFE) was introduced in 1979-80 to target out-of-school children in the age group of 6-14 years who had remained outside the Formal system of schooling. The prime focus of this programme was ten educationally backward States but it also covered urban slums, hilly, tribal and desert areas. The programme was implemented both through the States/UTs and as well as NGOs in the ratio of 60:40 for running co-educational centres, 90:10 for girls centres and 100 per cent assistance to voluntary agencies. A total number of 2,33,946 centres were run through State Government/UTs and another 58,618 through 816 voluntary agencies.

In order to make the scheme a viable alternative to Formal education it has been revised as 'Education Guarantee Scheme & Alternative and Innovative Education (EGS&AIE)'. The revised scheme will cover all the unserved habitations throughout the country where there are no learning centres within a radius of one km, and will be a part to the overall national programme framework for Universalisation of Elementary Education (UEE), the *Sarva Shiksha Abhiyan* (SSA). The pattern of Central assistance in the revised scheme will be uniform in the ratio of 75:25 between the States and Central government. The revised Scheme has been made operational with effect from 1 April 2001 with enhanced cost para-meters.

DISTRICT PRIMARY EDUCATION PROGRAMME

The District Primary Education Programme (DPEP) was launched in 1994 as

a major initiative to achieve the objective of Universalisation of Primary Education (UPE). The programme takes a holistic view of primary education development and seeks to operationalise the strategy of UPE through district specific planning with emphasis on decentralised management, participatory processes, empowerment and capacity building at all levels. The programme is implemented through the State level registered societies.

The programme aims at providing access to primary education for all children, reducing primary drop-out rates to less than 10 per cent, increasing learning achievement of primary school students by 25 per cent, and reducing the gender and social gap to less than five per cent.

The programme is structured to provide additional inputs over and above the Central/State sector schemes for elementary education. The programme fills in the existing gaps in the development of primary education and seeks to revitalise the existing system. DPEP is contextual and has a marked gender focus. The programme components include construction of classrooms and new schools, opening of non-formal/alternative schooling centres, appointment of new teachers, setting up Early Childhood Education Centres (ECEC), strengthening of State Councils of Educational Research and Training (SCERTs)/District Institutes of Educational Training (DIETs), setting up of Block Resource Centres/Cluster Resource Centres, teacher training, development of teaching learning material, research based interventions, special interventions for integrated education to disabled children, education of girls, working children, SC/ST, etc.

The district is the unit of programme implementation and selected on the basis of twin criteria, *viz.*, (a) educationally backward districts with female literacy below the national average and (b) districts where Total Literacy Campaigns (TLCs) have been successful, leading to enhanced demand for elementary education. DPEP is a Centrally-sponsored scheme. Eighty five per cent of the project cost is shared by Government of India (GOI) and 15 per cent by the concerned State government. Both the Central share and State share are passed on to State Implementation Societies directly as grant. The GOI share is resourced by external funding. Several bilateral and multilateral agencies are providing financial assistance for the DPEP.

Since its initiation in November 1994, when DPEP covered 42 districts in seven States, its reach has spread to 248 districts in 18 States, namely, Assam, Haryana, Karnataka, Kerala, Maharashtra, Tamil Nadu, Madhya Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Orissa, Andhra Pradesh, West Bengal, Uttar Pradesh, Uttaranchal, Bihar, Jharkhand and Rajasthan. The programme is being expanded to another 23 districts of Rajasthan, Orissa and Gujarat.

OPERATION BLACKBOARD

The scheme of Operation Blackboard was launched in 1987-88 with the aim of improving human and physical resources available in primary schools of

the country. Provision of at least two reasonably large rooms, at least two teachers and essential teaching learning materials for every existing primary school were the components of the scheme. During 1993-94, the scheme was extended to cover upper primary schools. It provided for three rooms for primary schools, an additional teacher for upper primary schools and a third teacher for primary school with enrolment of more than 100. The scheme is implemented through State Government. The scheme provides for 100 per cent Central assistance for Teaching Learning Equipment (TLE) and for salary of teachers during plan period. Provision of school building construction has been made under the programmes of Rural Employment and Development. The Department of Rural Development has worked out a scheme to make funds available for construction of school buildings on sharing basis with State Governments under *Jawahar Gram Samiridhi Yojana* (JGSY).

During the period 1987-88 to 2000-2001, TLE has been sanctioned to 5,22,902 primary schools and 1,38,009 upper primary schools. Posts of 1,49,146 teachers were sanctioned for primary schools to cover them into dual teacher schools. Moreover, 83,045 posts of third teachers and 77,610 posts of additional teachers have been sanctioned for primary schools with enrolment exceeding 100 and for upper primary schools respectively.

LOK JUMBISH

An innovative project *Lok Jumbish* with assistance from Swedish International Development Authority (SIDA) was launched in Rajasthan to achieve education for all by the year 2000 AD through people's mobilisation and their participation.

The first phase of the project was implemented during June 1992 to June 1994 at a project cost of Rs 18 crore shared between SIDA, Government of India and Government of Rajasthan in the ratio of 3:2:1. The duration of the second phase was enlarged from July 1995 to June 1999 and again it was extended up to December 1999. The third phase of the project started from June 1999 with financial assistance from Department for International Development (DFID), UK and is up to June 2004 with the total outlay of Rs 400 crore.

Project interventions were made in several components of primary education like teacher's training, minimum levels of learning, opening of new schools, non-formal education centres, etc. It has undertaken environment building activities like school mapping, opening new schools and upgradation of primary schools.

NATIONAL PROGRAMME OF NUTRITIONAL SUPPORT TO PRIMARY EDUCATION

A National Programme of Nutritional Support to Primary Education commonly called the Mid-day Meals Scheme launched on 15 August 1995 is aimed at improving enrolment, attendance and retention while simultaneously impacting on the nutrition status of students in primary classes. The

programme envisages provision of cooked meals/processed food for children studying in classes I-V in all government, local body and government-aided primary schools. During 2000-2001, 10.51 crore children studying in 7.92 lakh schools were covered. A sum of Rs 930 crore (BE) has been allocated during 2001-2002. Central assistance under the programme is available for the reimbursement of cost of foodgrains and for transportation charges for movement of foodgrains from FCI godowns to schools/villages. Salaries of cooks, helpers, etc., as well as expenditure on construction of kitchen sheds needed under the programme are eligible for coverage under the poverty alleviation schemes. Other costs of conversion of foodgrains into cooked meal/processed food are to be met by implementing agencies/states. Foodgrains (wheat/rice) at three kg per child per month, are being distributed where arrangements for provision of hot cooked meal/processed food have not yet been made.

EDUCATION FOR WOMEN'S EQUALITY

The Government of India is committed to bringing about basic change in the status of women through education. It believes that empowerment of women is a critical pre-condition for their participation in the education process. The major schemes/programmes for empowerment of women are as under: (i) *Mahila Samakhya*: Started in 1989, the *Mahila Samakhya* scheme recognises the centrality of education in empowering women to achieve equality. Presently the scheme is being operated in more than 8,000 villages in 53 districts spread in the States of Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh and Uttar Pradesh; (ii) *Sarva Shiksha Abhiyan*: *Sarva Shiksha Abhiyan* aims at mobilising resources - human, financial and institutional - necessary for achieving the goal of Universalisation of Elementary Education. A National Committee of State Education Ministers has been constituted under the Chairmanship of the Minister of Human Resource Development; (iii) Operation Blackboard: The scheme has three components: (a) provision of at least two classrooms in each primary schools; (b) provision of an additional teacher in single primary schools and (c) provision of essential teaching learning equipment including furniture for teachers; (iv) Non-formal Education: At present there are 2.92 lakh NFE centres covering about 73 lakh children in 25 States/UTs. 1.15 lakh centres exclusively meant for girls receive Central assistance up to 90 per cent; (v) District Primary Education Programme: The programme aims at providing access to primary education for all children with special interventions for the education of girls, reducing primary drop out rates, increasing educational attainment of primary school students and reducing the gap among gender and social groups to less than 5 per cent; and (vi) National Literacy Mission: The programmes of National Literacy Mission aim at imparting functional literacy to threshold, sustainable level of 75 per cent by the year 2005. This campaign model is accepted as the dominant strategy for reduction of illiteracy in India; (vii) *Navodaya Vidyalaya*: The *Navodaya Vidyalaya* (NV) Scheme has a three-fold objective of providing good quality modern education

to children in rural areas, ensuring attainment of 3-language formula by all students and to serve in each district as focal points for improvement in the quality of school education. These *Vidyalayas* are fully residential, co-educational institutions, providing education up to the Senior Secondary stage. Education in NVs include free boarding and lodging, textbooks, uniforms, etc., for all students; (viii) Vocational Education: The main objectives of this scheme are to enhance individual employability, reduce mismatch between the demand and supply of skilled manpower and provide an alternative for higher education; (ix) Boarding and Hostel Facilities for girl students: Under the scheme, financial assistance is given to eligible voluntary organisations to improve the enrolment of adolescent girls belonging to rural areas and weaker sections. The University Grants Commission (UGC) has been encouraging institutions to take up research projects in the area of women study by providing necessary financial assistance. 22 universities and 11 colleges have been assisted by the Commission to set up women's study centres. The UGC also provides assistance *inter alia* for removal of social disparities and regional imbalances in higher education facilities.

TEACHER EDUCATION

As envisaged in National Policy on Education (NPE) and Programme of Action (POA)-1986, the Centrally-sponsored scheme of Restructuring and Reorganisation of Teacher Education was taken up in 1987-88 to create a viable institutional infrastructure, academic and technical resource base for orientation, training and continuous upgradation of knowledge, competence and pedagogical skills of school teachers, Adult and Non-formal functionaries and teacher educators in the country. The Scheme envisaged setting up of District Institutes of Education and Training (DIETs) in each district to provide academic and resource support to elementary education teachers and Non-Formal Education (NFE)/Adult Education (AE) instructors. It also envisaged upgradation of selected Secondary Teacher Education Institutions (STEIs) into Colleges of Teacher Education (CTEs) and Institutes of Advanced Studies in Education (IASEs) to organise pre-service and in-service training for secondary teachers and to provide extension and resource support services to secondary schools. IASEs were expected to conduct programmes for preparation of elementary teacher educators; to conduct in-service training for elementary and secondary teacher educators and principals of secondary schools; to engage in advanced level fundamental and applied research especially of inter-disciplinary nature, and to provide academic guidelines to DIETs and support services to CTEs.

461 DIETs, 85 CTEs and 37 IASEs have been sanctioned in various States/UTs till now. Financial assistance has also been extended for strengthening of 20 State Councils of Educational Research and Training (SCERTs). More than 14 lakh teachers have been given orientation training under Special Orientation Programme for School Teachers (SOPT) in the use of Operation Blackboard (OB) material and implementation of Minimum Levels of Learning (MLL) strategy with focus on teaching of language,

mathematics and environmental studies. Attempts are on to strengthen Teacher Education Institutes and make them more functional, for which MoU are being signed with the States. The scope of SOPT has since been widened so as to cover secondary and senior secondary school teachers also.

NATIONAL COUNCIL FOR TEACHER EDUCATION

National Council for Teacher Education (NCTE) was established by an Act of Parliament in August 1995. The NCTE Act provides for achieving planned and coordinated development of teacher education system, regulation and proper maintenance of norms and standards of teacher education in the country. The NCTE is fully funded by the Central Government.

SECONDARY EDUCATION

Secondary education starts with classes IX-X leading to the higher secondary classes of XI-XII. It serves as a bridge between elementary and higher education and prepares young persons between the age group of 14-18 years for entry into the world of work or for entry into higher education. The enrolment at secondary/senior secondary stage increased from 1.5 million in 1950 to 27.8 million in 1998-99. Two-thirds of the children's population still remains out of the school system. There are about 1.10 lakh secondary level institutions to accommodate these children. Although the census 2001 brings out a very encouraging result in respect of literacy rate which has increased from 52.21 per cent in 1991 to 65.38 per cent in 2001, the variations among states are still a matter of great concern. Adolescents, which form the population for Secondary education, continue to constitute nearly one fifth of the total population of the country.

VOCATIONAL EDUCATION

The Centrally-sponsored scheme of vocationalisation of secondary education is being implemented since 1998 and revised programme is in operation from 1993. The Planning Commission categorised this scheme for transfer to the States along with other Centrally-sponsored schemes. However, a concrete decision has not emerged so far. Due to this reason in the initial stage of the Ninth Plan, the pace of implementation was slow. In August 1999 it was decided to revitalise the scheme and accordingly the States were advised to send expansion proposals. Consequently the implementation of the scheme got a fillip and many states have taken steps for strengthening and expansion of the scheme. States like Kerala, Madhya Pradesh, Haryana, Assam and Uttar Pradesh have ventured into a big expansion to cover more number of schools and introducing demand driven courses.

The collaborative project to offer fashion and garment manufacturing courses with the resource support of National Institute of Fashion Technology (NIFT) have been operationalised in the three Government schools located at Indore, Visakhapatnam and Ludhiana. A similar collaborative project with FICCI to offer vocational courses in CBSE affiliated schools is in the stage of finalisation.

INTEGRATED EDUCATION FOR DISABLED CHILDREN

The scheme of Integrated Education for Disabled Children (IEDC) was started with the objective of providing educational opportunities to children with disabilities under the general school system so as to facilitate their inclusion. Under the scheme, hundred per cent financial assistance is provided to the states and NGOs. Assistance is also provided for setting up resource centres, surveys and assessment of children with disabilities, purchase and production of instruction materials and training/orientation of teachers.

The IEDC scheme has till recently remained a fringe scheme. However, in the wake of the promulgation of the Persons with Disabilities (equal opportunities, protection of right and full participation) Act, 1995, education of children with disabilities has occupied the centre stage.

The Government proposes to make further efforts to generate awareness in the community about the need to send children with disabilities to regular schools. The financial outlay for the IEDC scheme in the Ninth Plan period is Rs 100 crore. During first four years of implementation, about Rs 46 crore have been spent on the implementation of the scheme. Rs 21 crore is expected to be utilised during 2001-2002.

PROMOTION OF CULTURE AND VALUES IN EDUCATION

Education about India's common cultural heritage has been identified in National Policy on Education as one of the core areas under the national system of education. A Centrally-sponsored scheme of Assistance for strengthening Culture and Values in Education is being implemented for providing assistance to Government agencies, educational institutions, *Panchayat Raj* institutions, registered societies, public trusts and non-profit making companies. The scheme has two broad components: (i) strengthening cultural and value education inputs in the school and non-formal education system; and (ii) the in-service training of art, craft, music and dance teachers. A total grant of Rs 123 lakh was approved for sanction of organisations during 1999-2000. The budget provision for the year 2000-01 was kept at Rs five crore.

NATIONAL POPULATION EDUCATION PROJECT

National Population Education Project (School Education) was launched in April 1980 with a view to institutionalise population education in the school education system. This project is executed by the Ministry of Human Resource Development, monitored by the Ministry of Health and Family Welfare and implemented by the National Council of Educational Research and Training. Fully funded by United Nations Population Fund, this project is being implemented in 30 States/UTs. This project is also being implemented in the Higher and Adult Education Sector. Three cycles of the project have already been completed. The fourth cycle (1998-2001) of the NPEP started in June 1998 with a new nomenclature *viz.*, National Population Education Project: Population and Development Education in Schools. The Ministry has sub

contracted certain project activities to the various autonomous organisations, *i.e.*, CBSE, NOS, NCTE, KVS and NVS.

BOARDING AND HOSTEL FACILITIES FOR GIRL STUDENTS

Under the scheme for strengthening of boarding and hostel facilities for girl students of secondary and higher secondary schools, financial assistance is being given to the eligible voluntary organisations to improve the enrolment of adolescent girls belonging to rural areas and weaker sections. Preference in providing assistance is given to hostels located in educationally backward districts, particularly those predominantly inhabited by SCs/STs and educationally backward minorities in the secondary and higher secondary schools. The following types of grant are given under the scheme: (i) Rs 5,000 per annum per girl boarder for food and salary of cook and warden if the hostel/boarding house accommodates at least 25 girl boarders who are students of classes IX-XII of recognised schools would get assistance under this scheme subject to an overall number of 50 boarders; (ii) A one-time grant at the rate of Rs 1,500 per girl boarder for purchase of furniture (including beds) and utensils and provision of basic recreational aids, particularly material for sports and games, reading room equipment and books; and (iii) Assistance for maintenance and reimbursement of rent is under consideration.

COMPUTER LITERACY AND STUDIES IN SCHOOLS

A pilot project on Computer Literacy and Studies in Schools (CLASS) was initiated in 1984-85 in collaboration with Department of Electronics. The broad objectives of the pilot project included demystification of computer and to provide 'hands-on' experience. The project had been continued up to 1992-93. CLASS project became a Centrally-sponsored scheme from 1993-94. During the Eighth Five Year Plan additional 2,371 schools were covered. The scheme is no longer in operation since 1 April 1999. The Department has taken an initiative to formulate a revised scheme in place of the erstwhile CLASS scheme which is expected to operationalise during 2001-02.

ENVIRONMENTAL ORIENTATION TO SCHOOL EDUCATION

The National Policy on Education (NPE) 1986, provides that the protection of environment is a value which along with certain other values, must form an integral part of curricula at all stages of education. To operationalise this noble objective the mind and intellect of the students must be sensitised to the hazards inherent in nature upsetting the ecological balance in nature. This step inculcates awareness and respect among the students for the basic concepts relating to conservation of the environment.

To this end, a Centrally-sponsored scheme, Environmental Orientation to School Education was initiated in 1988-89. The Scheme envisages assistance to voluntary agencies for conduct of experimental and innovative programmes aimed at promoting integration of educational programme in schools with local environmental conditions. The States/UTs are assisted for various activities including review/development of curricula of different disciplines

at primary, upper primary, secondary and senior secondary levels with a view to infusing environmental concepts therein.

SCIENCE EDUCATION IN SCHOOLS

To improve the quality of science education and promote scientific temper, as envisaged in the National Policy on Education, 1986, a Centrally-sponsored scheme, "Improvement of Science Education in Schools" was initiated during 1987-88. Under the Scheme, financial assistance is provided to States/UTs and voluntary agencies. While voluntary agencies are provided assistance for conducting experimental and innovative programmes, States/UTs are assisted for provision of science kits to upper primary schools; upgradation and strengthening of science laboratories in secondary/senior secondary schools, supply of books on science related subjects in secondary and senior secondary schools; and training of science and mathematics teachers.

One of the important components of this scheme is participation of Indian students at school level in the International Science Olympiads, *viz.*, International Mathematical Olympiad (since 1989), International Physics Olympiad (since 1998) and International Chemistry Olympiad (since 1999) and International Biology Olympiad (since 2000).

NATIONAL OPEN SCHOOL

The National Open School (NOS) established as an autonomous registered society under the Ministry of Human Resource Development in November 1989 is vested with the authority to examine and certify students registered with it, up to pre-degree level courses. NOS provides opportunities for continuing education to interested learners through its foundation, secondary and senior secondary courses. To make the courses meaningful, vocational courses are offered independently or in combination with academic subjects at the secondary and senior secondary levels. Flexibility, learning at one's own pace and open choice are the key concepts in the NOS. NOS offers and proposes to offer a number of Life Enrichment Courses addressed to teachers, principals as well as the general public and private sector enterprises. NOS has launched the Open Basic Education Project for out of school children in the 6-14 age group and adult learners. This will have three levels: preparatory, primary and elementary, which are equivalent to formal school standards of III, V and VIII. In addition, NOS helps the NGOs in the area of elementary education by providing materials, standardisation and certification at primary and upper primary levels. The school drop-outs and marginalised groups such as rural youth, girls and women, scheduled castes and scheduled tribes, handicapped and ex-servicemen are priorities for NOS.

Programmes offered by NOS through the distance education mode comprise the following elements: (i) Printed Self-learning Material: These materials are prepared by the academic staff of NOS well-illustrated and well produced; (ii) Personal Contact Programmes (PCPs): Under PCPs, classes and tutorials are held and counselling is given through selected recognised schools and institutions referred to as Accredited Institutions or Study Centres

spread all over the country. Practicals are also held here; and (iii) Audio and Video Programmes: These programmes are made available to study centres so that students can view them or use them during PCPs. Individual student can have these on nominal payment also. The courses offered by NOS are flexible and tailored to meet specific requirements of students.

The NOS serves its clients through a network of 1,459 study centres known as AIs spread all over the country and abroad. These AIs provide individualised support to its learners to facilitate the learning process. At present NOS has more than five lakh students on its roll. In order to extend educational facilities to non-resident Indians and other nationals, NOS has accredited centres in the Middle-East (Dubai, Abu Dhabi, Muscat and Kuwait), Nepal (Kathmandu and Bhutwal) and Canada (Vancouver). NOS is a National Board of Secondary and Senior Secondary and Vocational Examinations similar to India's Central Board of Secondary Education (CBSE) and the Council for the Indian School Certificate Examination (CISCE). NOS conducts examinations twice a year during May and November. The National Open School was conferred the Commonwealth of Learning Award of Excellence for Institutional Achievement in Distance Education at the "Pan Commonwealth Forum on Open Learning" in March 1999 at Brunei Darussalam.

NAVODAYA VIDYALAYA

The National Policy on Education - 1986 envisaged setting up of model schools one in each district of the country. Accordingly, a scheme was formulated under which it was decided to set up residential schools, called *Navodaya Vidyalayas*, on an average one in each district. *Navodaya Vidyalayas* are fully residential co-educational institutions providing education up to senior secondary stage. The scheme started with two experimental schools in 1985-86 and has now grown to 446 schools covering as many districts in 33 States/UTs with over 1.27 lakh students on rolls. About 30,000 new students are admitted every year. The *Vidyalayas* envisaged a new style of growth with identification and development of talented, bright and gifted children predominantly from rural areas who may otherwise be denied good educational opportunities. Efforts are made to ensure that at least 33 per cent of the students enrolled are girls. Migration is a unique feature of *Navodaya Vidyalaya* Scheme whereby 30 per cent of students in Class IX from a *Vidyalaya* located in one linguistic area (Hindi speaking to non-Hindi speaking and *vice-versa*) spend one academic year in a *Vidyalaya* in a different linguistic region to promote national integration through understanding of the diversity and plurality of country's cultures and people.

KENDRIYA VIDYALAYA

The Government of India approved the scheme of *Kendriya Vidyalaya Sangathan* in 1962 on the recommendations of the Second Pay Commission. Initially, 20 regimental schools in different States were taken over as Central Schools. In 1965, an Autonomous Body called *Kendriya Vidyalaya Sangathan* was established with the primary objective of setting up and monitoring

Kendriya Vidyalayas to cater to the educational needs of the children of the transferable Central Government Employees including Defence Personnel by providing common programme of education. At present there are 874 *Kendriya Vidyalayas* out of which one each is in Kathmandu and Moscow. All *Kendriya Vidyalayas* follow a uniform syllabus.

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

The National Council of Educational Research and Training (NCERT) is an apex resource organisation set up in September 1961. With headquarters at New Delhi, it assists and advises the Central and State governments on academic matters related to school education. The Council is fully funded by the Government of India.

NCERT provides academic and technical support for qualitative improvement of school education through its constituents—Department of National Institute of Education (NIE) at New Delhi, Central Institute of Educational Technology (CIET) at New Delhi, Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) at Bhopal and Regional Institutes of Education at Ajmer, Bhopal, Bhubaneswar, Mysore and Shillong. The Council conducts, aids, promotes and coordinates research in school education and teacher education, organises pre-service and in-service training of teachers; extension services for institutions; develops and experiments with improved educational techniques, practices and innovations; collects, compiles, processes and disseminates educational information, assists the States/UTs in developing and implementing programmes for qualitative improvement of school education, collaborates with international organisations; serves as the academic secretariat of the National Development Group (NDG) for the Asia and the Pacific Programme of Education Innovation for Development (APEID), UNESCO, Bangkok, and develops, prints and distributes textual materials, etc. Its innovative pre-service courses include four-year B.Sc. B.Ed/BSc.Ed., two-year B.Ed. Secondary in Science and Humanities, one-year M.Ed. Elementary, and one-year P.G. Diploma in Guidance and Counselling. Recently NCERT has also created National Resource Centre for Value Education (NRCVE), International Centre for Special Needs Children (ICSNE), National Centre for Computer Extended Education/Multimedia Laboratory in addition to being a centre of International Project on Technical and Vocational Education (UNEVOC)

NATIONAL TALENT SEARCH SCHEME

The National Council of Educational Research and Training started National Science Talent Search Scheme in 1963 to identify brilliant students at Class X as a pilot project for Union Territory of Delhi. It was extended throughout the country during 1964 with total number of 350 scholarships. The scheme underwent various changes over the years and renamed as 'National Talent Search Scheme' with effect from 1977. The number of scholarships now is 1,000 which includes 150 for SC and 75 for ST category.

The scheme is operated at two stages. In the first stage, States/UTs conduct test in their respective States/UTs and on the basis of merit, the States recommend stipulated number of candidates for the national level examination. At the second stage NCERT conducts National Level Test on second Sunday of May every year at one centre in each State/UT followed by an interview of successful candidates. Final merit list is prepared on the basis of written and interview marks.

NATIONAL AWARDS TO TEACHERS

These awards were instituted in 1958. Initially, these were given away on convenient dates. From mid-60s, 5 September came to be the date of investiture. Twenty of the awards are reserved exclusively for teachers of Sanskrit, Persian and Arabic teaching in traditional institutions. For general teachers there are two categories; (a) Primary Teachers (Class I to VIII) and (b) Secondary Teachers (Class IX to XII). Each State/UT has an earmarked quota based on teacher population, with the quota for secondary being half that of the primary; for smaller UTs, however, the quota is one each for both the categories. From the award year 2000 it has been decided to allocate a slot of 10 awards to CBSE and five awards to ICSE affiliated school teachers. In order to be eligible the teacher should have put in 15 years of continuous service on the date of consideration of his claim by the State Level Selection Committee. For principals and headmasters the eligibility period is 20 years.

Selection is made by State Selection Committee on the recommendations received from districts. Committee's recommendations are forwarded to the Government of India without the authority to change the order of merit. State government is competent to delete names after recording reasons for such deletions. The Government of India makes final selections strictly in the order of merit on a scrutiny of the bio-data and service record, only ineligible teachers are weeded out.

Each award consists of a certificate of merit, silver medal and a cash prize of Rs 25,000.

UNIVERSITY AND HIGHER EDUCATION

Higher Education is imparted through 259 universities in the country. Of these, there are 16 Central universities and the remaining are functioning under the State Acts. Total number of colleges in the country is 11,089. There are 49 institutions declared deemed-to-be universities under the University Grants Commission Act, 1956. The enrolment of students is 74.18 lakh while the number of teachers is 3.42 lakh.

UNIVERSITY GRANTS COMMISSION

The University Grants Commission (UGC) was established in 1956 under an Act of Parliament to take measures for promotion and coordination of university education and determination and maintenance of standards in

teaching, examination and research in universities. To fulfil its objectives, the Commission can enquire, among other things, into financial needs of the universities; allocate and disburse grants to them; establish and maintain common services and facilities; recommend measures for improvement of university education and give advice on allocation of grants and establishment of new universities.

AUTONOMOUS RESEARCH ORGANISATIONS

Indian Council of Historical Research (ICHR), New Delhi, set up in 1972 reviews the progress of historical research and encourages scientific writing of history. It operates research projects, finances research projects by individual scholars, awards fellowships and undertakes publication and translation work.

Indian Council of Philosophical Research (ICPR), functioning from 1981 with offices in New Delhi and Lucknow, reviews the progress, sponsors or assists projects and programmes of research in philosophy, gives financial assistance to institutions and individuals to conduct research in philosophy and allied disciplines.

Indian Institute of Advanced Study (IIAS), Shimla set up in 1965 is a residential centre for advanced research on humanities, social sciences and natural sciences. It is a community of scholars engaged in exploring new frontiers of knowledge aimed at conceptual development and offering interdisciplinary perspectives on questions of contemporary relevance.

Indian Council of Social Science Research (ICSSR), New Delhi, is an autonomous body for promoting and coordinating social science research. Its main functions are to review the progress of social science research, give advice on research activities in government or outside, sponsor research programmes and give grants to institutions and individuals for research in social sciences.

NATIONAL COUNCIL OF RURAL INSTITUTES

The National Council of Rural Institutes was set up on 19 October 1995 as an autonomous organisation fully funded by the Central Government to promote rural higher education on the lines of Mahatma Gandhi's revolutionary ideas on education, consolidate network and develop educational institutions and voluntary agencies in accordance with Gandhian philosophy of education and promote research as a tool for social and rural development.

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

Indira Gandhi National Open University (IGNOU) established by an Act of Parliament in September 1985 is responsible for the introduction and promotion of open university and distance education system in the educational pattern of the country and for the coordination and determination of standards in such systems. The major objectives of the university include widening access to higher education to larger segments of the population, organising

programmes of continuing education and initiating special programmes of higher education for specific target groups like women, people living in backward regions, hilly areas, etc.

The IGNOU provides an innovative system of university level education, flexible and open in regard to methods and pace of learning, combination of courses, eligibility for enrolment, age of entry, methods of evaluation, etc. The University has adopted an integrated multimedia instructional strategy consisting of printed materials and audio-video aids, supported by counselling sessions at a network of study centres throughout the country. It conducts both continuous evaluation as well as term-end examinations.

The IGNOU introduced its programmes in 1987 and has so far launched 62 programmes consisting of 604 courses. During 2001 over 1.91 lakh students have been registered for various programmes of study. The University has established an extensive student support services network consisting of 44 regional centres and 626 study centres situated in different parts of the country.

A Distance Education Council (DEC) established by the University as a statutory authority is an apex body for coordination and determination of standards in distance education. Doordarshan commenced telecast of IGNOU's programmes in May 1991 while the Mumbai and Hyderabad stations of All India Radio started broadcasting selected audio programmes of the IGNOU from early 1992. On 26 January 2000 IGNOU launched an educational channel *Gyandarshan*.

At present there are nine other open universities in the country, *viz.*, B.R. Ambedkar Open University, Hyderabad (Andhra Pradesh), Kota Open University, Kota (Rajasthan), Nalanda Open University (Bihar), Yashwant Rao Chavan Maharashtra Open University, Nashik (Maharashtra), Madhya Pradesh Bhoj Open University, Bhopal (Madhya Pradesh), Ambedkar Open University, Ahmedabad (Gujarat), Karnataka State Open University, Mysore (Karnataka), Netaji Subhash Open University, Kolkata (West Bengal) and Rajrishi Tandon Open University, Allahabad (Uttar Pradesh).

EDUCATION FOR SCHEDULED CASTES AND SCHEDULED TRIBES

Pursuant to the National Policy on Education, the following special provisions for SCs and STs have been incorporated in the existing schemes of the Departments of Elementary Education & Literacy and Secondary & Higher Education: (a) Relaxed norms for opening of primary schools; (b) A primary school within one km walking distance from habitations of 200 population instead of habitations of 300 population; (c) Abolition of tuition fee in all states in government schools at least up to primary level. Most of the states have abolished tuition fee for SC/ST students up to senior secondary level; (d) Providing incentives like free text books, uniforms, stationery, school bags, etc., to these students; (e) The major programmes of the Department of Education, *viz.*, District Primary Education Programme (DPEP), *Lok Jumbish, Shiksha Karmi*, Non-Formal Education (NFE) and National Programme for

Nutritional Support to Primary Education accord priority to areas of concentration of SCs and STs; (f) Reservation of seats for SCs and STs in Central Government institutions of higher education including IITs, IIMs, Regional Engineering Colleges, Central Universities, *Kendriya Vidyalayas* and *Navodaya Vidyalayas*, etc. Apart from reservation, there is also relaxation in the minimum qualifying cut off stages for admission in universities, colleges and technical institutions. The UGC has established SC/ST cells in 104 universities including Central universities to ensure proper implementation of the reservation policy; (g) To improve academic skills and linguistic proficiency of students in various subjects and raising their level of comprehension, remedial and special coaching is provided for SC/ST students. IITs have a scheme under which SC/ST students who marginally fail in the entrance examination are provided one year preparatory course and those who qualify are then admitted to the First Year of the B.Tech. course; (h) Out of 43,000 scholarships at the secondary stage for talented children from rural areas 13,000 scholarships are exclusively reserved for SC/ST students. Seventy scholarships are exclusively reserved for SC/ST students under the National Talent Search Scheme; (i) SC/ST candidates are provided relaxation up to 10 per cent cut off marks for the Junior Research Fellowship (JRF) test and all the SC and ST candidates qualifying for the JRF are awarded fellowship; (j) 50 Junior Fellowships are awarded every year in science and humanities including social sciences to SC/ST candidates who appear in National Eligibility Test (NET) and qualify the eligibility test for lecturership; (k) UGC provides relaxation of 5 per cent from 55 per cent to 50 per cent at the Master's level for appointment as lecturer for SC/ST candidates. The Commission has also reduced minimum percentage of marks required for appearing in the NET examination to 50 per cent at Master's level for SCs/STs; (l) The Central Institute of Indian Languages, Mysore has a scheme of development of Indian Languages through research, developing man power, production of materials in modern Indian Languages including tribal languages. The Institute has worked in more than 75 tribal languages; and (m) 146 districts have been identified as low female literacy districts to be given focussed attention by the Centre as well as States/UTs for implementation of programmes/schemes.

The allocation of Rs 889.98 crore and Rs 436.54 crore have been made under the Special Component Plan and Tribal Sub-Plan (TSP) for SCs and STs respectively. This accounts for 16.33 per cent and 8.01 per cent of the total outlay.

MINORITIES EDUCATION

In pursuance of the revised Programme of Action (POA) 1992, two new Centrally-sponsored schemes, i.e., (i) Scheme of Area Intensive Programme for Educationally Backward Minorities and (ii) Scheme of Financial Assistance for Modernisation of *Madarsa* Education were launched during 1993-94.

The objective of scheme of Area Intensive Programme for Educationally Backward Minorities is to provide basic educational infrastructure and facilities in areas of concentration of educationally backward minorities which

do not have adequate provision for elementary and secondary schools. Under the scheme cent per cent assistance is given for : (i) establishment of new primary and upper primary schools, non-formal education centres, wherever necessary; (ii) strengthening of educational infrastructure and physical facilities in the primary and upper primary schools; and (iii) opening of multi-stream residential higher secondary schools for girls belonging to the educationally backward minorities.

The scheme of Financial Assistance for Modernisation of *Madarsa* Education is being implemented to encourage traditional institutions like *Madarsa* and *Maktabs* to introduce science, mathematics, social studies, Hindi and English in their curriculum. Under this scheme, cent per cent assistance is given to such institutions for appointment of qualified teachers for teaching the new subjects to be introduced.

EDUCATIONAL DEVELOPMENT IN NORTH-EASTERN REGION

In the Education Sector, State and Central Sector projects involving Rs 347.44 crore have so far been approved by the Planning Commission for funding from the non-lapsable pool of resources in the North-Eastern Region. Funds totalling Rs 217.33 crore have been released to the implementing agencies. The projects are in various stages of implementation. Central Universities like IGNOU, Tezpur University, Assam University, NEHU and Nagaland University have also received assistance from the Non-lapsable Pool for development of infrastructure. Under IGNOU's project, Regional Centres have been made operational in all the eight state capitals of the North-East Region.

TECHNICAL EDUCATION

Technical education is a crucial component of human resource development with great potential for adding value to products and services and contributing to the national economy. Five Year Plans have laid great emphasis on the development of technical education. During the past five decades, there has been a phenomenal expansion of technical education sector in the country. Apart from the technical institutions set up by the Central and State governments, there are Centre-State joint venture institutions as well as State-aided and private institutions. All such institutions are recognised by the statutory regulatory authority, All India Council for Technical Education (AICTE) set up by the Central Government. The number of degree-level AICTE-approved institutions in engineering and technology has been 1,058 during 2001-02, with the in-take of 2,20,947 students. Earlier, nearly 50 per cent institutions were either Government or Government aided in Technical Education sector, whereas now, with the help of private initiative, more than 80 per cent institutions are functioning on self-financing basis. The in-take in engineering colleges during 2001-02 has been 2,71,719. A number of premier institutes are training persons in different disciplines of Technology and Management. These include six Indian Institutes of Technology (IITs) located at Mumbai, Delhi, Kanpur, Kharagpur, Chennai and Guwahati; six Indian Institutes of Management (IIMs) at Ahmedabad, Kolkata, Bangalore, Lucknow,

Indore and Calicut; Indian Institute of Science (IISc), Bangalore; Specialised higher Technical Institutes like School of Planning and Architecture (SPA), New Delhi; Indian School of Mines (ISM), National Institute for Training in Industrial Engineering (NITIE), Mumbai; National Institute for Foundry and Forge Technology (NIFFT), Ranchi; Indian Institute of Information Technology and Management (IIITM), Gwalior and Indian Institute of Information Technology (IIIT) Allahabad. In addition, 17 Regional Engineering Colleges (RECs), set up as Centre-State joint sector initiative along with a number of Engineering/Technological faculties of Central/State Universities and State-aided and Private Engineering/Technical institutes also contribute in this regard. North-Eastern Regional Institute of Science and Technology (NERIST), Itanagar; and Sant Longowal Institute of Engineering and Technology (SLIET), Sangrur (Punjab), with their flexible academic designs and non-conventional modular courses at Certificate, Diploma and Degree levels in Engineering/Technology/Applied Sciences cater to the technical person-power needs in an integrated manner. A vast network of Diploma level Polytechnics throughout the country contribute to the production of appropriate technical person-power as technicians in different disciplines and emerging areas of technology. There are about 1,215 diploma level polytechnics in India offering three years' Diploma Courses, after 10+ or 10+2, in a large number of conventional disciplines in Engineering/Technology/Pharmacy/Architecture as well as in areas of emerging and sunrise technology. The Polytechnics are basically state-level institutions and about 50 per cent of them are set up through Private initiatives. A number of Polytechnics, conduct Post-Diploma courses and Advanced Diploma courses for continuing education and career upgradation of technicians.

These efforts are supplemented by a number of recognised Professional Engineering Societies like: (i) the Institution of Engineers (India); (ii) the Institution of Chemical Engineering (India); (iii) the Institution of Electronics and Tele-communication Engineers (India); (iv) the Indian Institute of Metals; (v) the Institution of Industrial Engineers (India); (vi) the Institute of Town Planners (India); (vii) the Indian Institute of Architects, etc., who conduct Engineering/Technical Examinations at different levels for working professionals desirous of improving their technical qualifications. All such professional examinations are recognised by the Central Government as equivalent to appropriate academic qualifications for appropriate levels. The Board of Assessment for educational qualifications, set up by the Government of India for the recognition of academic and professional qualifications (except those concerning Health and Medical Science), assesses and accords recognition to all such qualifications for employment purposes under the Central Government.

NATIONAL LITERACY MISSION

The National Literacy Mission (NLM), launched in 1988, aims at attaining full literacy, *i.e.*, sustainable threshold level of 75 per cent by 2005. The mission seeks to achieve this goal by imparting functional literacy to non-literates in

the age group of 15-35 (including age-group of 9-14 where Non-formal Education is not in operation).

Total Literacy Campaign in Ernakulam in 1989 served as a role model for the entire country and ensured the near ascendancy of the campaign-mode in the adult education. Today Literacy Campaigns, being area-specific, time-bound, volunteer-based, cost-effective and outcome-oriented, are the dominant strategy of the National Literacy Mission for the eradication of illiteracy. In order to ensure that the learner makes a smooth transition from guided learning to self-learning the post literacy campaigns are launched after the basic literacy phase is over. Skill upgradation is an important component of post literacy. The programme aims at the creation of a learning society through the Continuing Education Programmes. The Continuing Education package offers a host of programmes, *viz.*, the equivalency programme, income-generating programme, quality of life improvement programme and individual interest promotion programme.

So far 561 districts in the country have taken up literacy programme and made 91.53 million people literate. Of these 166 districts have been covered under Total Literacy Campaign, 290 districts under Post Literacy and 105 districts covered under Continuing Education Programme.

LITERACY RATES—CENSUS 2001

There has been unprecedented progress in the field of literacy in India. For the first time since Independence, the absolute number of illiterates has declined by over 31.9 million in the last decade. A significant milestone reached as per provisional figures of Census 2001, is that while the 7+population increased by 171.6 million persons during 1991-2001, 203.6 million additional persons have become literate during the decade. 562.01 million persons are literate. Now 3/4 of the male population, and more than half of the female population are literate. This marks a significant step towards achieving the target of 75 per cent sustainable literacy.

A comparison of 1991 and 2001 Census figures shows that : (i) The literacy rates recorded an increase of 13.17 percentage points from 52.21 in 1991 to 65.38 in 2001, the highest rate since Independence; (ii) The female literacy rates increased by 14.87 percentage point (from 39.3 per cent to 54.16 per cent) as against 11.72 per cent (from 64.1 per cent to 75.8 per cent) in case of males; (iii) The gap in male-female literacy rates has decreased from 28.84 in 1991 Census to 21.70 percentage point in 2001; (iv) All the States and UTs without exception have shown increase in literacy rates, the male literacy rate now being over 60 per cent; (v) The States and Union Territories which have moved forward by more than fifteen percentage points during the decade are Rajasthan (22.48), Chhattisgarh (22.27), Madhya Pradesh (19.44), Dadra & Nagar Haveli (19.33), Andhra Pradesh (17.02), and Uttar Pradesh (16.65); (vi) Bihar registered a minimum increase of 10.04 per cent points from 37.49 per cent to 47.53 per cent; (vii) Kerala continues to have highest literacy figure in the country, with male literacy at 94.20 per cent and female literacy

at 87.86 per cent. Bihar has recorded the lowest literacy rates both in case of males (60.32 per cent) and females (33.57 per cent); (viii) Male literacy has shown significant increase in Rajasthan by 21.4 per cent. Other major states to show good progress on this front are Madhya Pradesh (18.26 per cent), Chhattisgarh (19.79 per cent), Andhra Pradesh (15.72 per cent) and Uttar Pradesh (15.40 per cent); (ix) Rajasthan has shown similar advances on the female literacy front with a growth of 23.90 per cent after Chhattisgarh (24.87 per cent). States like Madhya Pradesh (20.93 per cent), Uttar Pradesh (18.61 per cent), Andhra Pradesh (18.45 per cent) and Orissa (16.29 per cent) have also shown significant improvement in the female literacy rates in the last decade; (x) The number of literates in the country has increase by 56.81 per cent. Uttar Pradesh (81.75 per cent), Daman & Diu (83.22 per cent), Madhya Pradesh (83.69 per cent), Chhattisgarh (85.25 per cent) and Nagaland (85.60 per cent) have posted more than 80 per cent decadal growth in the number of literates; and (xi) The decline in the number of illiterates has been largely contributed by Andhra Pradesh (16.79 per cent) followed by Uttar Pradesh (14.09 per cent), Maharashtra (12.48 per cent), Rajasthan (11.46 per cent), Madhya Pradesh (11.43 per cent) and Tamil Nadu (10.66 per cent). These states account for 3/4 of the percentage decrease in total number of illiterates in the country, while they share only half of the country's population.

INDIAN NATIONAL COMMISSION FOR CO-OPERATION WITH UNESCO

India has been a member of the United Nations' Educational, Scientific and Cultural Organisation (UNESCO) since 1946. The Government of India, set up an interim Indian National Commission for Cooperation (INCC) with UNESCO in 1949, which was later put on a permanent footing in 1951. The Commission consists of five Sub-Commissions, namely, Education, Natural Sciences, Social Sciences, Culture and Communication.

The main objective of the Commission is to advise the Government of India in the matters falling in the domain of UNESCO and to play a role in UNESCO's work particularly in the formulation and execution of its programmes. The Minister of Human Resource Development is the President of the Commission and Secretary to the Government of India in the Department of Education is its Secretary-General.

The membership of the Commission is of two categories; (i) individual and (ii) institutional. There are at present about 50 'Individual' and 50 'Institutional' members distributed among its five Sub-Commissions. 'Individual' members are nominated by the President of the Commission in their personal capacity from among eminent educationists, scientists, persons distinguished in the field of social sciences, humanities, culture and communication. 'Institutional' members comprise the concerned Government Departments, important statutory and autonomous bodies, national professional organisations and national non-governmental bodies concerned with or working for education, natural sciences, social sciences, humanities, culture and communication, which are admitted to the membership of the Commission. Both the 'Individual' and 'Institutional' members hold office for

a term of four years, unless the Commission is dissolved or reconstituted by the Government earlier or their term is extended pending reconstitution of the Commission.

The National Commission acts as an advisory, coordinating and liaison agency at the national level in respect of all matters within the competence of UNESCO. It also collaborates with the National Commissions of the Region and with UNESCO's Regional Offices for fostering regional, sub-regional and bilateral co-operation in education, science, culture and information. It also performs executive functions like promotion of UNESCO Coupons Programme, public information activities, coordination of UNESCO Club movement and UNESCO Associated Schools Project in the country, publication of Hindi and Tamil editions of UNESCO's monthly magazine *Courier*, nomination of experts to participate in national, regional and international meetings, workshops, seminars, conferences, etc., convened by or held under the auspices of UNESCO, identification and recommendation of candidates for various vacancies notified by UNESCO; placement of UNESCO Fellows from Member States in various universities, institutions, laboratories in India and undertaking special studies in cooperation with UNESCO.

BOOKS

NATIONAL BOOK TRUST

The National Book Trust (NBT), an autonomous organisation, was established in 1957. The activities of the NBT are: (i) publishing; (ii) promotion of books and reading; (iii) promotion of Indian books abroad; (iv) assistance to authors and publishers; and (v) promotion of children's literature.

It produces books in Hindi, English and fifteen other major Indian languages under its various series and also in Braille. Every alternate year NBT organises the World Book Fair which is the largest in Asia and Africa. The Trust also observes 14 to 20 November every year as National Book Week.

In 2000-2001, NBT organised book fairs and exhibitions at Shimla, Jalandhar, Bilaspur and Brahmapur and National Book Fair at Mumbai. 338 *Pustak Perikramas* were organised through its mobile exhibition vans. NBT participated in international book fairs and made arrangements for special display of select titles brought out by Indian publishers in the international book fairs of Australia, Zimbabwe, Beijing, Singapore, Frankfurt, Bologna, Sri Lanka and Bangladesh. The NBT also organised an exhibition of Indian Books in Mauritius.

EXPORT AND IMPORT POLICY FOR BOOKS

As per the policy announced by the Ministry of Commerce for the period April 1997 to March 2002, any person/organisation is free to import all categories of books including journals, magazines and newspapers under Open General Licence (OGL) including children's literature.

INTERNATIONAL STANDARD BOOK NUMBERING SYSTEM

The International Standard Book Numbering (ISBN) System was introduced in 1985 to help book industry to boost export. The ISBN is an international book numbering system by which a unique number carrying ten digits is assigned to each book published.

The Raja Ram Mohan Roy National Agency for ISBN has been making registrations of Indian publishers and writers and allotting suitable blocks. Since its inception and up to May 2001, 5,900 small and big publishers and authors have been registered by the Agency.

COPYRIGHT

Copyright protection is governed by the Indian Copyright Act, 1957. The Act was comprehensively amended in 1994 taking into account the technological developments. The amended Act including the Rules made thereunder, was brought into force on 10 May 1995. The Act further amended in 1999 came into force on 15 January 2000.

The Copyright Office was established in January 1958 in pursuance of section 9 of the Copyright Act, 1957 to register copyright of works under different categories. As per section 33 of the Copyright Act, the Central Government also registers copyright societies for doing copyright business.

Under the provisions of section 11 of the Copyright Act, 1957, the Government of India has reconstituted the Copyright Board with effect from 22 February 2001. The Copyright Board is a quasi-judicial body consisting of a Chairman and 12 other members. The Board hears cases regarding rectification of copyright registration, disputes in respect of assignment of copyright and granting of licences in works withheld from public. The meetings of the Board are held in different zones of the country to provide facility of justice to authors/creators and owners of intellectual property.

India is a member of two major international conventions on copyright, namely, the Berne Convention for the Protection of Literary and Artistic Works administered by the World Intellectual Property Organisation (WIPO) and the Universal Copyright Convention administered by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). India is also a member of both these United Nations' specialised agencies. Copyright and Related Rights now form part of Agreement on Trade Related Aspects of Intellectual Property to which India has acceded.

SCHOLARSHIPS

The Department of Secondary and Higher Education funds scholarship/fellowship programmes for Indian students for school and higher education. These programmes are administered through the State Governments/Union Territories. They include the National Scholarships Scheme for post-matric studies, a scheme of scholarships to help students of non-Hindi speaking

states studying Hindi and scholarships to enable talented rural children to continue secondary education.

Scholarships for advanced or specialised studies are offered under the various cultural exchange programmes, bilateral agreements, Commonwealth scholarships/fellowship plan and ad-hoc offers received from different countries. These scholarships are mostly for Post-Graduation, Doctoral and Post-Doctoral studies and for foreign language studies. During 2000-2001, 75 candidates went to countries like China, Greece, Germany, Ireland, Israel, Japan, Mexico, Canada, New Zealand, Portugal, Slovak and U.K. on scholarships.

PROMOTION OF LANGUAGES

Language being the most important medium of communication and education its development occupies an important place in the National Policy on Education and Programme of Action. Therefore the promotion and development of Hindi and other languages listed in the Constituion of India have received due attention.

HINDI

In order to assist non-Hindi speaking States/UTs to effectively implement the three-language formula, support for provision of facilities for teaching of Hindi in these States/UTs is provided by sanctioning financial assistance for appointment of Hindi teachers in schools and for establishment of Hindi Teachers Training Colleges in these States/UTs, under a Centrally-sponsored scheme. Assistance is also given to voluntary organisations for enabling them to hold Hindi teaching classes, conducting research on methodology of its teaching and providing Hindi books to various organisations. Through the *Kendriya Hindi Sansthan*, Agra and its regional centres at Delhi, Mysore, Hyderabad, Guwahati and Shillong, the Government of India promotes development of improved methodology for teaching Hindi to the non-Hindi speaking students. An academic course for teaching Hindi to foreigners is being conducted by the *Sansthan*. Central Hindi Directorate runs programmes relating to purchase and publication of books and their free distribution to non-Hindi speaking states and to the Indian missions. The Directorate also brings out Hindi journals like *Bhasha*, *Varshiki* and *Sahityamala*. It is also running a scheme of teaching Hindi through correspondence courses in the media of English, Tamil, Malayalam and Bengali.

The Commission for Scientific and Technical Terminology, New Delhi, prepares and publishes definitional dictionaries and terminology in various disciplines, PAN-India terminology. Hindi-English glossary in basic sciences, humanities, social sciences and applied science, university-level textbooks in agriculture and engineering and other subjects are also published.

MODERN INDIAN LANGUAGES

Financial assistance is given to voluntary organisations and individuals to bring out publications like encyclopaedias, dictionaries, books of knowledge,

original writing on linguistic, literary, indological, social, anthropological and cultural themes, critical editions of old manuscripts, etc., for the development of modern Indian languages. Grants are also given for holding/conducting literary conferences, seminars and short-term studies besides purchasing copies of printed publications. States are given special help for the production of university level books in the regional languages. The National Council for Promotion of Urdu Language (NCPUL) has been functioning since April 1996 as an autonomous body for the promotion of Urdu language and also Arabic and Persian languages. The Council has made forays into the minority education field and revived the periodicals discontinued in the past. One of the outstanding areas of operation of NCPUL has been transfer of Information Technology to Urdu language. In collaboration with C-DAC, Pune, NCPUL is working on developing an advance software for Urdu, which will be Internet acceptable. NCPUL has established 54 Computerised Calligraphy Training Centres, where a one year 'Diploma in Computer Applications and Multilingual DTP' (Urdu, Hindi and English) is being imparted.

UNI Urdu services have been made available throughout the country and NCPUL has been monitoring this service and subsidising the service charges to the extent of 50 per cent in favour of daily Urdu newspapers.

The Government has set up National Council for Promotion of Sindhi Language, a fully funded autonomous organisation for the promotion and development of the Sindhi language. The headquarters of the Council is at Vadodara in Gujarat.

The Government also provides facilities for study of all Indian languages. For this the Central Institute of Indian Languages (CIIL), Mysore conducts research in the areas of language analysis, language pedagogy, language technology and language use. The Institute runs three schemes: (i) the development of Indian languages including tribal languages; (ii) implementation of three-language formula and (iii) financial assistance for publication in Indian languages (other than Hindi, Urdu, Sindhi, Sanskrit and English) inclusive of tribal languages. It runs regional language centres at Bhubaneswar, Mysore, Patiala, Pune, Solan and Lucknow to help meet the demand for training of teachers to implement the three-language formula and one centre at Guwahati to give training to teachers in Nepali and Manipuri from Academic Session 2000-2001 and do research for development of tribal languages of the north-eastern region. The regional language centre also provides training for mother-tongue teachers in different Indian languages at various levels.

Besides, a Centrally sponsored scheme "Appointment of Urdu Teachers and Grant of Honorarium for teaching Urdu in States/UTs" provides for salaries of Urdu teachers appointed against new posts created during the five year period irrespective of the Plan period with the approval of Government of India. Honorarium is also admissible to the existing teachers for teaching Urdu in the States/UTs at the rate of Rs 500 pm or 10 per cent of the basic

pay of the regular Urdu teachers, whichever is less. The scheme is implemented in the blocks/districts of the concentration of educationally backward minorities identified by the Ministry of Social Justice and Empowerment.

ENGLISH AND FOREIGN LANGUAGES

The Central Institute of English and Foreign Languages, Hyderabad, a fully funded autonomous organisation, *inter alia*, conducts training programmes for school teachers, develops teaching materials, implements/monitors the scheme of English Language Teaching Institutes and provides financial assistance for publication, purchase of books in the English language and for holding seminars, conferences, workshops, etc., and to bring about substantial improvement in the standards of teaching/learning of English.

SANSKRIT AND OTHER CLASSICAL LANGUAGES

There are various schemes for the propagation, popularisation and development of Sanskrit and other classical languages. These include schemes for financial assistance to State governments and voluntary Sanskrit organisations and their development into *Adarsh Sanskrit Mahavidyalayas*, incentives to retired scholars as *Shastri Chudamani Pandits*, publication of original writings of contemporary authors, editing and publication of rare manuscripts and catalogues of manuscripts, reprinting of important out-of-print Sanskrit texts, promotion of oral *Vedic* tradition, vocational training to products of Sanskrit *Pathshalas*, national awards to eminent Sanskrit, Pali/Prakrit, Arabic and Persian scholars and preparation/publication of Sanskrit dictionaries.

Registered voluntary organisations engaged in the development and propagation of Sanskrit are given recurring and non-recurring grants for salary of teachers, scholarship to students, construction and repair of buildings, library books, research projects, etc., up to 75 per cent of the approved expenditure. About 950 voluntary institutions working in the field of propagation and promotion of Arabic and Persian are benefited under this scheme every year. Institutions having potential for greater development are identified and brought under the scheme of *Adarsh Sanskrit Mahavidyalayas* and *Sodh Sansthans*. So far 19 post-graduate Sanskrit *Mahavidyalayas* and two research institutions have been brought under the purview of this scheme. An amount of Rs 300 per month is being provided as scholarship under the voluntary organisation scheme to encourage more students to learn Sanskrit.

The Department of Education conducts an All India Vedic Convention through *Maharishi Sandipani Rashtriya Ved Vidya Pratishthan* where scholars in different *Shakhas* of Vedas from all over India are invited with a view to identifying rare Veda *Shakhas* and their repositories and devising ways and means for preserving the oral traditions. As a special measure to preserve the oral tradition of Vedic studies, a scheme was introduced in 1978 under which each *Swadhyayin* is required to train two students each below 12 years, in a particular Veda *Shakha*. The scholar is provided with an honorarium of Rs 3,000 and the student is paid scholarship of Rs 300 per month. At present

36 such units are functioning. The Department also organises an All India Elocution Contest every year through the *Rashtriya Sanskrit Sansthan* for the students of institutions in the traditional lines to encourage them in extempore speech on various *Shastric* subjects. A team of eight contestants from each State is invited.

Maharishi Sandipani Rashtriya Veda Vidya Pratishthan was set up in 1987 for preserving and developing all aspects of Vedic studies. The *Pratishthan* organises one All India and six Regional Vedic *Sammelans* every year. Seminars and workshops on different topics are also organised. Financial assistance to Vedic institutions, aged Vedic *Pandits* and *Nityagnihotris*, stipends to Veda students, fellowships, conducting Vedic classes for the general public, tape recording of Vedic recitation, etc., are the other activities of the *Pratishthan*.

A scheme for awarding Certificate of Honours with a suitable monetary grant to eminent Sanskrit, Arabic and Persian scholars was introduced in 1958. The scheme was extended to cover Pali/Prakrit also in 1996. The distinction is conferred every year on Independence Day. The total number of awards announced are 22—15 for Sanskrit, one in Pali/Prakrit and three each for Arabic and Persian. A monetary grant of Rs 50,000 per annum for life is granted to each scholar and a *Sanad* and a robe of honour (*Shawl*) by the President of India. It has been decided to introduce, *Maharshi Badrayam Vyas Samman* for young scholars in age group of 30-40 in the same fields as part of this scheme. Under this part of the scheme nine awards—five in Sanskrit, one each in Pali, Prakrit, Arabic and Persian with a monetary grant of Rs one lakh is one time payment to each scholar besides the *Shawl* and a *sanad* by the President of India.

Rashtriya Sanskrit Sansthan, an autonomous organisation under the Ministry of Human Resource Development with its headquarters at Delhi, exercises academic and administrative control over eight *Kendriya Sanskrit Vidyapeethas* at Jammu, Allahabad, Guruvayoor, Puri, Jaipur, Lucknow Sringeri and Garli (H.P.) where Sanskrit education in traditional *Shastras* and research in various fields is conducted. It conducts examinations for *Prathama* to *Vidyavaridhi* (Ph.D) and *Vachaspati* (D.Litt). Over 50 institutions all over the country are affiliated to the *Sansthan*, besides its own institutions.

Under the Centrally-sponsored scheme of development of Sanskrit education cent percent grant is given to the State governments/Union Territories for : (a) financial assistance up to Rs 10,000 per annum to eminent Sanskrit scholars in indigent circumstances; (b) for appointment of teachers for teaching selected modern subjects in the traditional Sanskrit *Pathshalas*, (c) for providing facilities for teaching Sanskrit in high and higher secondary schools; (d) for scholarships to students studying Sanskrit in order to attract good students in IX to XII classes; (e) for various schemes for promotion of Sanskrit; (f) for research projects in Sanskrit received from Deemed Sanskrit

Universities, NGOs, etc., duly recommended by the State governments and (g) to *Rashtriya Sanskrit Sansthan*, Deemed Universities, CBSE/NCERT/SCERT, etc., for schemes to improve the methodology of teaching Sanskrit in schools, Sanskrit colleges/*Vidyapeethas* and for orientation of teachers towards this end.

World Sanskrit Conference organised by the Ministry of Human Resource Development from 5-9 April 2001 in New Delhi was inaugurated by the Prime Minister. Scholars from several countries participated in the conference.

6 Cultural Activities

THE Department of Culture in the Ministry of Tourism and Culture plays a vital role in the preservation, promotion and dissemination of art and culture. The aim of the Department is to develop ways and means by which the basic cultural and aesthetic values and perceptions remain active and dynamic among the people. It also undertakes programmes of preservation, encouragement and dissemination of various manifestations of contemporary creativity. The Department is a nodal agency for commemorating significant events and celebrating centenaries of great persons.

VISUAL ARTS

LALIT KALA AKADEMI

To promote and propagate understanding of Indian art, both within and outside the country, the Government established Lalit Kala Akademi (National Akademi of Fine Arts) at New Delhi in 1954. The Akademi has regional centres called Rashtriya Lalit Kala Kendra at Lucknow, Kolkata, Chennai and Bhubaneswar. It has also set up Community Artists' Studio Complex with workshop facilities in painting, sculpture, print-making and ceramics at Garhi village in New Delhi.

Since its inception, the Akademi has been organising national exhibitions of contemporary Indian art with 10 national awards, each of Rs 25,000. Every three years, the Akademi also organises Triennale India, an international exhibition of contemporary art in New Delhi.

The Akademi honours eminent artists and art historians every year by electing them as Fellows of the Akademi. To propagate Indian art outside, the Akademi regularly participates in International Biennales and Triennales abroad and also organises exhibitions of works of art from other countries. To foster contacts with artists from outside, it sponsors exchange of artists with other countries under the various Cultural Exchange Programmes and Agreements of the Government of India.

The Lalit Kala Akademi accords recognition to art institutions/associations and extends financial assistance to these bodies as well as state Akademis. It also gives scholarships to deserving young artists of its regional centres. Under its publication programme, the Akademi brings out monographs on the works of Indian contemporary artists in Hindi and English and books on contemporary, traditional, folk and tribal arts authored by eminent writers and art critics. The Akademi also brings out bi-annual art journals, *Lalit Kala Contemporary* (English), *Lalit Kala Ancient* (English) and *Samkaleen Kala* (Hindi). Apart from these, it brings out large size multi-colour reproductions of contemporary paintings and graphics from time to time. The Akademi has started a regular programme on research and documentation.

Scholars are given financial assistance to undertake projects in contemporary folk, field projects on various aspects of Indian society and culture for better understanding, salvage and revitalisation of the rich cultural heritage of the country.

The Museum has a large, well-equipped library with over 10,000 books and subscribes to 125 National and International journals. It also has an audio-visual unit, a computer section with multimedia CD ROM and editing facilities. The Akademi maintains a website.

PERFORMING ARTS

MUSIC

Two main schools of classical music *Hindustani* and *Carnatic* continue to survive through oral tradition being passed on by teachers to disciples. This has led to the existence of family traditions called *gharanas* and *sampradayas*.

DANCE

Dance in India has an unbroken tradition of over 2,000 years. Its themes are derived from mythology, legends and classical literature, two main divisions being classical and folk. Classical dance forms are based on ancient dance discipline and have rigid rules of presentation. Important among them are *Bharata Natyam*, *Kathakali*, *Kathak*, *Manipuri*, *Kuchipudi* and *Odissi*. *Bharata Natyam* though it derives its roots from Tamil Nadu, has developed into an all India form. *Kathakali* is a dance form of Kerala. *Kathak* is a classical dance form revitalised as a result of Mughal influence on Indian culture. Manipur has contributed to a delicate, lyrical style of dance called *Manipuri*, while *Kuchipudi* is a dance form owing its origin to Andhra Pradesh. *Odissi* from Orissa, once practised as a temple dance, is today widely exhibited by artistes across the country. Folk and tribal dances are of numerous patterns.

Both classical and folk dances owe their present popularity to institutions like Sangeet Natak Akademi and other training institutes and cultural organisations. The Akademi gives financial assistance to cultural institutions and awards fellowships to scholars, performers and teachers to promote advanced study and training in different forms of dance and music, especially those which are rare.

THEATRE

Theatre in India is as old as her music and dance. Classical theatre survives only in some places. Folk theatre can be seen in its regional variants practically in every region. There are also professional theatres, mainly city-oriented. Besides, India has a rich tradition of puppet theatre, prevalent forms being puppets, rod puppets, glove puppets and leather puppets (shadow theatre). There are several semi-professional and amateur theatre groups involved in staging plays in Indian languages and in English.

SANGEET NATAK AKADEMI

Sangeet Natak Akademi, the National Akademi of Music, Dance and Drama, was founded in 1953 to promote the performing arts in collaboration with the states and voluntary organisations. By arranging free performances by talented artists, the Akademi seeks an enhanced public appreciation of music, dance and drama, together with exchange of ideas and techniques for the common gain of Indian performing arts.

Kathak Kendra, Delhi, and Jawaharlal Nehru Manipur Dance Academy, Imphal, are training institutions run by the Akademi. While the Kathak Kendra imparts training in Kathak Dance and Music, the Jawaharlal Nehru Manipur Dance Academy imparts training in Manipuri dance and allied arts. The Akademi also looks after the management of Rabindra Rangshala in New Delhi. The management of the Akademi vests in its General Council, supported by the Executive Board which exercises direction and control over the affairs of the Akademi.

In furtherance of its objectives, the Akademi is supporting training programmes in *Chhau* dance of *Mayurbhanj* and *Seraikella* as also *Koodiyattam* in Kerala. The Akademi also runs the following schemes: assistance to theatre directors and playwrights, promotion and preservation of traditional performing arts, support to art forms which are in danger of extinction, inter-state cultural exchange programmes, cultural exchange programmes with foreign countries, documentation and dissemination, etc. The Akademi also annually honours artistes in the field of performing arts and holds festivals, seminars, workshops, etc.

NATIONAL SCHOOL OF DRAMA

The National School of Drama (NSD) - one of the foremost theatre training institutions in the world and the only one of its kind in India was set up by Sangeet Natak Akademi in 1959. Later in 1975, it became an autonomous organisation, financed entirely by Department of Culture. The objective of NSD is to train students in all aspects of theatre, including theatre history, production, scene design, costume design, lighting, make-up, etc.

NSD has produced a galaxy of talents — actors, directors, script-writers, designers, technicians and educationists who work not only in theatre but in film and television also — winning several awards, national and international. The training in the School is based on a thorough, comprehensive, carefully planned syllabus. The systematic study and practical performing experience of Sanskrit drama, modern Indian drama, traditional Indian theatre forms, Asian drama and western drama give the students a solid grounding and a wide perspective in the art of the theatre. In order to establish links between traditional theatre forms of India and modern expressions, the School brings in experts to train the students in these forms and also sends students to regional centres for training in traditional theatre. The School has also attracted to its training faculty some of the finest creative talents from within

the country and abroad. The school has its performing wing, a Repertory Company, and Theatre-in-Education Company called *Sanskaar Rang Toli* that perform for children and arrange workshops for children and teachers. The school provides a three-year Diploma in Dramatic Arts course. NSD has its Regional Resource Centre at Bangalore.

LITERARY ART

Rediscovery of ancient and medieval Indian literature and development of modern literature in major Indian languages and English mark the literary activities of present-day India. A large number of literary periodicals and magazines, literary institutions and All India Radio have given impetus to the growth of modern Indian literature.

SAHITYA AKADEMI

Sahitya Akademi is the Indian National Academy of Letters meant to promote the cause of Indian literature through publications, translations, seminars, workshops, cultural exchange programmes and literary meets organised all over the country. The Akademi was founded in March 1954 as an autonomous body fully funded by the Department of Culture, Government of India. It was registered as a Society in 1956. Sahitya Akademi has a written constitution to guide and shape the modalities of its various functions. The Akademi has recognised 22 languages. It has an Advisory Board of ten members in each of these languages that suggests various functions and publications in the concerned languages. There are four Regional Boards to promote regional interaction among the languages of the north, west, east and south. Besides its Head Office in New Delhi it has four offices in Kolkata, Mumbai, Bangalore and Chennai. The Akademi has four translation centres at Bangalore, Delhi, Ahmedabad and Kolkata, besides a project office at Vadodara for promotion of oral and tribal literature and an Archives of Indian literature. It maintains a unique multilingual library at New Delhi and at its regional offices at Bangalore and Kolkata stocking about 1.5 lakh books in over 22 languages.

Sahitya Akademi recognises eminent writers through 22 Awards for creative writing, 22 translation prizes, fellowships for distinguished contribution to literature, *Bhasha Samman* meant to promote peripheral languages, *Ananda Coomaraswamy Fellowship* for South Asian scholars and Honorary Fellowships for foreign scholars who have done significant work in Indian literature. The Akademi publishes books in 22 languages including translations of Award-winning works, monographs on the great pioneers of Indian literatures, histories of literature, Indian and foreign classics in translation, anthologies of fiction, poetry and prose, biographies, Registers of Translators, Who's Who of Indian Writers and Encyclopaedia of Indian Literature. So far the Akademi has published over 3,200 books in these different categories. It has three journals, *Indian Literature* (bi-monthly in English), *Samakaleena Bharatiya Sahitya* (bi-monthly in Hindi) and *Sanskrita Pratibha* (half-yearly in Sanskrit).

Sahitya Akademi holds about 30 regional, national and international seminars every year on various topics in literature, literary history and aesthetics. Besides, it organises a series of programmes, such as *Meet the Author*, *Kavisandhi*, *Kathasandhi*, *Asmita*, *Mulakat*, *Men and Books*, *Through My Window*, *Loka*, *The Many Voices*, *Avishkar*, *Antaral*, and *Literary Forum*. The Akademi also regularly holds Translation Workshops.

The Akademi holds annually a week-long Festival of Letters every year, usually in February. It has certain special projects like the *Ancient Indian Literature*, *Medieval Indian Literature* and *Modern Indian Literature* together constituting ten volumes of the best of Indian writing over five millennia. All these volumes have since been published. Another project for the translation and publication of Tribal Literature has been established at Vadodara as its headquarters. Five books have been published under this projects. The Akademi has also launched a collaborative project with the National Book Trust, to bring out 100 Indian classics in translation. Another project is the Archives of Indian Literature that is meant to document literature through films, videos, audios, CDs and to preserve manuscripts, photographs and other materials associated with eminent Indian writers.

The Akademi gives Travel Grants to young authors to interact with writers in other parts of India. It also has a cultural exchange programme wherein each other's literature is published on reciprocal basis besides exchanging writers and scholars. Sahitya Akademi has launched its website: <http://www.sahitya-akademi.org>.

FELLOWSHIPS AND FINANCIAL ASSISTANCE

To provide financial support to outstanding artistes for creative work in various fields of performing, plastic and literary arts the following schemes are being implemented by the Government.

EMERITUS FELLOWSHIPS

The scheme of Emeritus Fellowships has been formulated with a view to giving financial support to artistes who have achieved a high degree of excellence in their respective fields, to enable them to continue experimentation in a spirit of financial freedom. The value of the Fellowships is Rs 7,500 per month and is tenable for a period of two years. The total number of fellowships awarded each year is 30.

KUMAR GANDHARVA FELLOWSHIP

A Fellowship in the memory of Pt. Kumar Gandharva has been instituted from 1992-93. The fellowship is equated to the Emeritus fellowship and is awarded by the Government to a distinguished senior artiste in the age-group of 30-40 years in the field of music, performing and visual arts. The amount of the fellowship is Rs 7,500 per month for a period of two years. The number of fellowships awarded each year is five.

SENIOR/JUNIOR FELLOWSHIP SCHEME

The scheme has been formulated to provide basic financial support for a very advanced training on individual creative efforts for revival of our traditional form of art. Artistes in the age group of 35-65 years are provided support for senior fellowships up to Rs 6,000 per month, whereas the junior fellowships is awarded at the rate of Rs 3,000 per month to the artistes in the age group 25 to 35 years. The number of senior and junior fellowships per year is 150 and 300 respectively and the duration of fellowship is two years.

FELLOWSHIP IN NEW AREAS

The scheme has been introduced in 1998-99 with the objective to encourage application of modern ideas, principles, methodologies and technology to art and culture related issues. The fields covered are: (i) indology; (ii) cultural economics; (iii) structural and engineering aspects of monuments; (iv) numismatics; (v) epigraphy; (vi) scientific and technological principles of conversation; (vii) sociology of culture; and (viii) management of heritage and art and cultural institutions. The total number of senior fellowship is 15 per year, and the fellowship amount is Rs 6,000 per month. The number of junior fellowship is 10 and fellowship amount is Rs 3,000 per month. The fellowships are awarded for a period of two years.

SCHOLARSHIP TO YOUNG ARTISTES

Under the scheme financial assistance is given to outstanding artistes, in the age-group of 18-35 years for advanced training within India, in the fields of music, dance, visual arts, drama and folk, traditional and indigenous arts. The duration of scholarship is two years and the value is Rs 2,000 per month. The number of scholarships awarded each year is 400.

GRANTS TO CULTURAL ORGANISATIONS

Financial assistance is given to institutions of all-India character, engaged in the development of cultural activities, to meet part of their expenditure on maintenance and development activities. The institutions assisted are the Institute of Historical Studies, Kolkata, and the Institute of Traditional Culture, Chennai.

ARCHAEOLOGICAL SURVEY OF INDIA

The Archaeological Survey of India (ASI) established in 1861 functions as an attached office of the Department of Culture, Ministry of Tourism and Culture. Its major activities are : maintenance, conservation and preservation of Centrally-protected monuments/sites and remains; conducting archaeological explorations and excavations; chemical preservation of monuments and antiquarian remains; architectural survey of monuments; development of epigraphical research; setting up and re-organisation of site museums in India; development of environment at Centrally-protected monuments; and training in archaeology. At present there are 3,606 Centrally-protected monuments of

national importance which include 16 monuments on the list world heritage. The number of individual structures being maintained by ASI is over 5,000.

MUSEUMS

Museums are repositories of our cultural heritage and are meant for acquisition, conservation and preservation of historical, technical and other materials against decay and for their transmission to posterity as records of history. They also serve as important audio-visual means of education. The development of museums in all their ramifications is considered important as they promote national integration and international understanding. Great emphasis is laid on the documentation of the existing collection in Government and private museums, preservation of the collections by using latest scientific aids and publication of the catalogue of the existing collection.

The National Museum was established on 15 August 1949 in the Durbar Hall of the Rashtrapati Bhawan. The Museum was formally inaugurated on 18 December 1960 on its present premises. Initially the National Museum had a very small collection of about 1,000 works of art. Now there are more than 2,00,000 works of art of diverse nature, both of Indian and foreign origin, covering a time-span of 5,000 years of cultural legacy of Indian sub-continent. The opening of the National Museum Institute of History of Art, Conservation and Museology (Deemed University) in 1989 for M.A. and Ph.D students has added a new dimension to it.

Initially ten permanent galleries were set up in 1960 representing all aspects of art, archaeology and anthropology. There are now 26 permanent galleries. New galleries have been added such as Buddhist Art, Decorative Arts, Evolution of Indian scripts and coins, Tanjore and Mysore School Paintings and Jewellery Gallery. The National Museum Library today possesses 50,490 books on ancient and medieval history, archaeology, fine arts, anthropology, etc., including the Elwin, Satyam Bhai, Hermaneck and Desikacharya, B.N. Sharma and L.P. Sihare collection.

The Museum has been organising seminars and exhibitions on various themes. It has been holding temporary exhibitions on selected themes from time to time, in addition to a number of international exhibitions.

The National Museum has been actively associated with 161 countries for the last 52 years in exchange of Museum personnel, art exhibitions, art publications and reproduction of works of art under the Cultural Exchange Programme.

Nehru Memorial Museum and Library, New Delhi, under the administrative control of the Department of Culture is the centre for a personalia Museum on the life and times of Jawaharlal Nehru, Library which has a pre-eminent position among the social science libraries in the country; the Oral History, the Manuscripts, the Research and Publications and the Reprography Divisions and finally the Centre for Contemporary Studies are the important units of creative activity which thrive under the aegis of the

organisation. The organisation places considerable emphasis on its research programmes and on the extension of research facilities to scholars. The Museum which portrays the life and times of Jawaharlal Nehru continues to maintain its popularity, attracting a large number of people every day.

The National Council of Science Museums (NCSM), Kolkata, an autonomous organisation under the Department of Culture, is primarily engaged in popularising science and technology amongst the students in particular, and masses in general, through a wide range of interactive programmes and activities. The NCSM administers and manages Science Museums/Centres/Parks throughout the country. The Council has also developed a large number of interactive indoor and outdoor exhibits and robotic dinosaurs. Science City is a unique venture of NCSM and is planned to be a major attraction to the residents of Kolkata as well as national and international visitors to the metropolis. Set up on a 50-acre plot of land, it will be one of the largest and finest in the world, presenting science and technology to the people through gigantic and thrilling experiences. The Council has set up nearly 300 school science centres in rural schools throughout the country and is providing them with teaching aids, and training facilities. NCSM is setting up a Science Centre at Goa.

The Allahabad Museum was declared as an institution of national importance by the Government of India in 1985. It has been working under the aegis of the Department of Culture, Ministry of Tourism & Culture, Government of India since then. The Museum is famous for its collection of Bharhut, Bhumara and Jamsot sculptures and for the terracotta from Kausambi, Bhita, Jhusi, Patliputra, Sarnath, Rajghat and Ahichhatra. The Museum also has paraphernalia and family heirlooms of the Nehrus, including manuscripts of *An Autobiography* by Jawaharlal Nehru and a large volume of correspondence. Among the Museum collections are paintings of the Bengal School of Painters and Vijayavargiya. Among the foreign painters represented in the Museum mention may be made of Nicholas Roerich, his son Svetoslav Roerich and Anagarika Govinda.

The National Research Laboratory for Conservation of Cultural Property (NRLC), Lucknow, a subordinate office of the Department of Culture, Government of India, is a scientific institution engaged in the conservation of cultural heritage. Its activities include conducting research in materials and methods of conservation, study of materials and technologies of art objects, training in conservation and rendering technical advice and assistance to museums and allied institutions. The library of the laboratory has a good collection of literature on different aspects of conservation, and it provides documentation services like abstracting, annotated bibliographies on selected topics, etc., to other institutions. Publication of technical notes and manuals for conservators is another important activity of the laboratory. The laboratory conducts each year, an orientation workshop for Directors and Curators on preventive conservation and a six-month training course for conservators. A regional centre of NRLC for the southern region has been established at Mysore.

The National Gallery of Modern Art (NGMA), founded in 1954, is an autonomous organisation under the Department of Culture. The main aim of the NGMA is the promotion and development of contemporary Indian Art. The collection of NGMA comprises 15,126 works of art, representing about 1,000 contemporary Indian artistes. The collection has been built up, mainly by purchase and also by gift. The Gallery's important collections include paintings, sculpture, graphic arts and photographs. NGMA organises exhibitions from its collection and under cultural exchange programme periodically. Several colour reproductions have been brought out. NGMA's objective is to help people look at the works of modern art with understanding and sensitivity. In keeping with this, NGMA, Mumbai was inaugurated in 1996. A branch of NGMA has been opened in Bangalore in 2000.

The Salar Jung Museum, Hyderabad, an institution of national importance, came into being on 16 December 1951. It is a rich repository of Global Art collections. Named after the erstwhile noble family of the Salar Jungs, the collectors of this treasure trove, the major portion of the Museum's collection was acquired by Mir Yousuf Ali Khan popularly known as Salar Jung-III (13 June 1889-2 March 1949). The collection consists of Indian Art, Middle Eastern Art, Far Eastern and European Art, representing nearly 36 countries in 50 mediums. Apart from this there is a gallery devoted to the illustrious Salar Jung family, the Children's Section, a rich reference library, reading room and a rare manuscripts section with 8,550 Arabic, Urdu, Persian manuscripts which make the museum a place of education and enjoyment for the people from all walks of life.

NATIONAL ARCHIVES OF INDIA

The National Archives of India (NAI), New Delhi known until independence as Imperial Record Department was established in Kolkata on 11 March 1891. It is the official custodian of all non-current records of permanent value of the Government of India and its predecessor bodies. The National Archives of India is an attached office of the Department of Culture. It has a regional office at Bhopal and three record centres at Bhubaneswar, Jaipur and Pondicherry.

Major activities of the Department include : (i) Making public records accessible to various Government agencies and research scholars; (ii) preparation of reference media; (iii) preservation and maintenance of records and conducting of scientific investigations for the said purpose; (iv) evolving records management programmes; (v) rendering technical assistance to individuals and institutions in the field of conservation of records; (vi) imparting training in the field of archives administration, records management, reprography, repair and conservation of records, books and manuscripts at professional and sub-professional levels; and (vii) creation and promotion of archival consciousness in the country by organising thematic exhibitions.

The National Archives of India provides financial assistance to State/UT archives, voluntary organisations and other custodial institutions, so that

the documentary heritage is preserved and archival science is promoted. NAI has hoisted its website: <http://www.nationalarchives.nic.in>.

MARINE ARCHAEOLOGY

India initiated underwater archaeological research in 1981 by establishing Marine Archaeology Centre in the National Institute of Oceanography, Goa. The main objective of Marine Archaeology is to reconstruct the history of past seafaring activities from material remains and the study of submerged archaeological sites.

Since 1983 underwater archaeological explorations have been carried out almost every year in the waters of ancient Dwarka. Successive investigations of Dwarka in about 4 to 12m water depth have revealed the presence of a number of submerged stone building blocks. The explorations during 1992 to 1995 were carried out mainly to demarcate the limits of the submerged Dwarka and also to document properly the submerged structures and objects noticed. At Dwarka approximately 9,80,000 sq m area was explored between the water depth of 3 to 12 m off *Samudranarayana* Temple. The important findings were documented mainly with still photography, underwater video filming and underwater drawings.

Preliminary underwater explorations off Somnath were carried out during 1992-95. The findings were a three-holed triangular stone anchor and a three-holed prismatic stone anchor measuring in length about a meter, and a one-holed circular stone object similar to that found in Dwarka.

Marine archaeological explorations are being carried out since 1991 in Poompuhar waters in collaboration with the Department of Archaeology, Government of Tamil Nadu. The main objective of this survey was to delineate the submerged extension of the ancient town of Kaveri-poompattinam, north of the present river Kaveri and to explore the deep water where a U-shaped structure was noticed during earlier explorations. Diving and airlifting operations were undertaken north of the river Kaveri at a water depth of 5-7 m. Deeper waters were also explored to confirm whether the U-shaped structure was man-made. Diving at the shipwreck site became essential to ascertain the country to which it belonged. Off-shore exploration was carried out in shallow waters, north of river Kaveri and south of the present Poompuhar village. A few dressed stone blocks were found in various water depths. One of them was semicircular with an L-shaped cut. Airlift operations yielded building blocks of stone and a number of potsherds of the early historical period (300 BC to 300 AD).

Explorations carried out in deeper waters (23 m depth) revealed the presence of an U-shaped stone structure which was located about five km seaward of Kadaikkadu. The structure lies in a north-south direction. In the centre of the object there is a hollow which is filled with sand. Maximum height of structure on the outer side is about three m, while on the inner side it is less than one m. On the northern side of the object an opening

was noticed. The height of the object is greater in the south than in the north. The circumference of this object is 140 m. Maximum length is 40 m and its width is 20 m. About 40 m north of this structure two smaller objects of the same material were found which seem to be related to the main structure. It is believed that these are man-made structures, perhaps, pertaining to a Buddhist relic.

Geophysical explorations carried out with the sub-bottom profiler revealed a submerged palaeochannel of the river Kaveri in the north of Poompuhar. The width of the channel varies from 300 m to 500 m and it is buried 20 m below the sea bottom. This channel extends up to deeper water structures, suggesting that the ancient shoreline was about five km seaward of the present shoreline.

The Poompuhar wreck seems to have belonged to the Dutch rulers in India and might have sunk during a war against the French in 1792-93 as indicated by a few lead ingots from the wreck. Two of them bear the symbols of a crown below which is the letter 'D'. This symbol of the crown over 'D' is engraved on the coins issued by the Dutch in India.

The on-shore explorations of Lakshadweep revealed the presence of significant potsherds of red ware, red-polished ware, dull red ware, red and black ware and buff ware from Kavaratti, Androth and Amini. Two Buddha heads (one 95 cm and the other 55 cm high) carved out of locally available coral rock found earlier by inhabitants of Androth, were examined and assigned to the 6th-7th century AD. The presence of red polished ware suggests the earliest habitation on these islands date about 100-500 AD. Of the four shipwrecks located in Lakshadweep waters, one was at the reef of Suheli Par and three at Minicoy. Part of the first wreck seems like a tank part lying on the reef along with some tyres, which may be a warship belonging to the 1st or 2nd World War. Two shipwrecks explored by diver-archaeologists at a water depth of 4-15 m are about 100 m long. In one of them the steam engine is intact with a 27 m long shaft attached between engine and propeller blade. An anchor chain more than 100 m long was also observed at a depth of about 15 m. In the other wreck the engine has disintegrated, however, two boilers can be clearly seen.

From the information gathered from hydrographic charts, Marine Archaeology Centre of the National Institute of Oceanography, Goa located the wreck at Grandy island off Goa waters in 1987. This wreck is a steel hulled cargo vessel with cabin, hatch, bridge and accommodation. It is more than 60 m long. This ship might have sunk in a furious storm after it lost anchor and drifted towards the shore. The Marine Archaeology Centre resumed exploration in November 1994. This wreck can be an excellent training base for Marine Archaeologists.

In December 1989 the Marine Archaeology Centre discovered a historical shipwreck at Amee Shoals in Mormugao waters. The shallow depth suggested that the vessel must have run aground on the rocky shoals. The wreck revealed

large and well-dressed granite blocks. Other finds were a cannon and an iron anchor.

LIBRARIES

Libraries are the keepers of our history and culture. Development of library systems is an important component of the scheme of non-formal and continuing education. Constitutionally the subject 'libraries' is included in the State List. The Centre has jurisdiction only over libraries established by it and institutions of national importance as declared by it. There are more than 60,000 libraries in the country.

National Library, Kolkata serves as a permanent repository of all reading and information material produced in India as well as printed material written by Indians and concerning India written by foreigners, wherever published and in whatever language. Under the Delivery of Books Act, 1954 the National Library is entitled to receive one copy of each publication published in the country. It is also a repository of the United Nations publications. It renders multi-faceted services and extends different types of bibliographical assistance to numerous readers and scholars, ministries, national and international organisations. Over 30 lakh books, besides periodicals, maps, manuscripts, newspapers and microfilm/microfiche totalling several million items are housed in the Library. Invaluable and prestigious personal collections like the Asutosh Collection, Jadunath Sarkar Collection, Buhar Collection and some others are in its possession. The library has established exchange relations with 211 libraries of 86 countries.

The Central Reference Library, Kolkata is responsible for the compilation, publication and sale of the *Indian National Bibliography*. This is a monthly record of current Indian publications in 14 languages including English based on receipts in the National Library, Kolkata, under the provisions of the Delivery of Books, Act, 1954. The Library is also compiling and publishing *Index Indiana*, an annual index to select articles appearing in current Indian periodicals in six major Indian languages.

STATE CENTRAL LIBRARY, MAHARASHTRA STATE, MUMBAI

The State Central Library came into existence on 1 July 1994 by taking over Central Library by the State Government from the Asiatic Society of Bombay under the provisions of Maharashtra Public Libraries Act, 1967. It is now under the control of the Directorate of Libraries, Mumbai. This apex library in Maharashtra serves as a permanent Repository of all reading and information material. It has nearly all printed material by Indians and foreigners on India in any language. Over eight lakh books besides periodicals, maps, newspapers are housed in this library.

Raja Rammohan Roy Library Foundation has made great strides in promoting library services in the country since its inception in 1972. Currently it operates two types of schemes of assistance, i.e., matching and non-matching. Matching schemes are operated from the joint fund created with

State government's contribution along with equal share from the Foundation whereas non-matching schemes are operated fully from the Foundation's own resources. During 2000-01, an expenditure of Rs 11 crore is likely to be incurred on matching and non-matching schemes for 9,200 libraries in the country.

The Delhi Public Library, Delhi established in 1951 with financial and technical assistance from UNESCO, has since developed into a metropolitan public library system consisting of a central library at S.P. Mukherjee Marg, a zonal library at Sarojini Nagar, and three branches at Patel Nagar, Karol Bagh and Shahdara; 25 sub-branch libraries; 25 libraries at re-settlement colonies; six community libraries, nine reading-rooms which inculcate reading habits among the weaker sections of society; a braille library with a network of 13 mobile service points for the visually handicapped, both students and adults; three sports libraries of the status of sub-branches located in different stadia in Delhi; one at Central Jail, Tihar for the prisoners; 18 deposit stations which are run by various societies/associations and a network of 67 mobile service stations to serve the urban and rural areas in the National Capital Territory of Delhi. The Delhi Public Library is a recipient library under the Delivery of Books Act. Its book stock is more than 14 lakh.

The Central Secretariat Library originally known as Imperial Secretariat Library, Kolkata was established in 1891. The Library has been housed in Shastri Bhawan, New Delhi since 1969. It has a collection of over 8.5 lakh volumes. The main objective of the Library is to provide facilities for reference and research to Central Government offices/organisations, employees, general readers and research scholars. It has a centralised membership system for the library complex. The Library has a separate Hindi and regional languages wing—*Tulsi Sadan*—at Bhawalpur House, New Delhi and a branch library at R.K. Puram, New Delhi. The Library is utilising the latest technological developments for information handling. To improve the user service, it has also initiated various publication projects. The Library has well equipped reprographic and micrographic facilities.

COPYRIGHT LIBRARIES

Under the Delivery of Books and Newspapers (Public Libraries) Act, 1954, four libraries are entitled to receive a copy of new books and magazines published in the country. These are the National Library, Kolkata; Central Library, Mumbai; Connemara Public Library, Chennai and Delhi Public Library, Delhi. There are also specialized libraries for researchers. Prominent among them are Nehru Memorial Museum and Library, New Delhi; Indian Council of World Affairs, New Delhi; Indian Statistical Institute, Kolkata; Gokhale Institute, Pune; Theosophical Society, Chennai; National Council of Applied Economic Research, New Delhi and Indian Institute of Public Administration, New Delhi. Apart from these some of the bigger universities also have sizeable libraries.

MANUSCRIPT LIBRARIES

KHUDA BAKHSH ORIENTAL PUBLIC LIBRARY

Khuda Bakhsh Oriental Public Library, Patna established in 1891 was declared as an institution of national importance in 1969 by an Act of Parliament. It has a rich collection of over 20,000 Arabic, Persian, Urdu, Turkish, Pali and Sanskrit manuscripts and over 2,000 Mughal and Rajput paintings besides 2,00,000 printed documents. More than 1,650 audio and video cassettes have been prepared. The Library has published critical editions of 64 rarities. The Library has instituted a few fellowships at par with UGC. It has been recognised by seven universities as a centre of research for awarding the degrees of Ph. D./D. Litt. The Library has also instituted a prestigious award of Rs one lakh and a citation. The library is available on its website :www.kblibrary.org.

TMSSM LIBRARY

The Thanjavur Maharaja Serfoji's Saraswati Mahal (TMSSM) Library, Thanjavur is one of the few medieval libraries that exist in the world. It symbolises a priceless repository of culture and time-defying treasurehouse of knowledge, built up by the successive dynasties of Nayaks and Marathas of Thanjavur. The Library was made a public library in 1918 by the Madras Government and was registered on 9 July 1986 as a society under the Tamil Nadu Societies Registration Act. Now the Library is administered by both the Government of India and the Government of Tamil Nadu. The Library has 46,695 manuscripts in Sanskrit, Marathi, Telugu, Tamil and other languages in both palmleaf and paper form. Forty one volumes of descriptive catalogues for these manuscripts have been brought out. Miniature paintings, colour drawings, atlases, maps, charts and rare prints in its collection are very attractive and reflect the Tanjore school of paintings. Besides, it has 54,009 books in Indian languages covering various disciplines and a rare collection of about 4,500 books in European languages collected by Raja Serfoji II. The Library has published more than 425 books from the unpublished manuscripts.

RAMPUR RAZA LIBRARY

The Rampur Raza Library housed in Hamid Manzil in the fort of Rampur is a treasure house of Indo Islamic learning and art. Set up under the Rampur Raza Library Act, 1975, it has a priceless collection of about 60,000 printed books and 15,000 manuscripts, besides more than 5,000 miniature paintings and 2,500 specimens of Islamic calligraphy and 3,500 books of Loharu collection.

ASIATIC SOCIETY

Asiatic Society, Kolkata was founded in 1784 by Sir William Jones (1746-1794), eminent indologist, with the objective of inquiring into the history, science, arts and literature of Asia. This institution proved to be the inspiration behind all literary and scientific activities in the country. Directly or indirectly it has

contributed to the growth and development of most of the major antiquarian, scientific and literary institutions in India. The Society was also the model for all other Asiatic Societies of the world. Its historic importance was recognised and the Government of India declared it as an 'institution of national importance' by an Act of Parliament in 1984, its bicentenary year. The Society maintains a museum which includes an Ashokan rock edict and copper plates ranging from the third century BC and important documents, and coin collections for the study of Indian history and culture. It contains approximately 65,000 MSS in various languages. With its library of printed books, archives and the collection of MSS, it is one of the leading centres of study of indology in the world. Recently the Society has expanded its activities considerably in the sphere of establishing intercultural relationships with various countries of the world. It has been chosen by UNESCO as one of the best institutions for its 'Memory of the World Programme'. It has undertaken the Encyclopaedia Asiatica Project in eight volumes. A new art gallery has been opened at the historic Metcalfe Hall acquired by the Society.

INSTITUTIONS OF TIBETAN AND BUDDHIST STUDIES

Indian scholars, many centuries ago took arduous journeys across the Himalayas to Tibet and carried with them Indian philosophy and thought. Evolution of Tibetan thought and culture was a consequence of this. After Independence, a number of institutions have been set up in the country for preservation of Tibetan culture, philosophy, literature, etc. The Government is also implementing a scheme of financial assistance to such organisations.

The Central Institute of Higher Tibetan Studies, Varanasi, an autonomous organisation fully financed by the Centre was established with the objective of the preservation of Tibetan culture and tradition, restoration of ancient Indian literature preserved in Tibetan languages and providing higher education in Buddhist studies to students from the border areas. The Institute prepares students for various courses. It has been given the status of deemed-to-be university from April 1988.

The Central Institute of Buddhist Studies, Leh was established in 1959 to train students in Buddhist philosophy, literature and arts. It is affiliated to Sampurnanand Sanskrit Vishwa Vidyalyaya, Varanasi.

The Sikkim Research Institute of Tibetology, Gangtok is an autonomous organisation set up for research and studies in Tibetology. The Institute has done significant work in promoting research in CHHO (Tibetan for *Dharma*) and associated subjects like iconography, medicine, astrology, history, etc. It publishes a quarterly journal, a bulletin of Tibetology. The Institute receives maintenance and development grants from the Government of India.

The Library of Tibetan Work and Archives, Dharamsala, acquires and preserves Tibetan books and manuscripts. The main activities of the library are to provide research facilities, to run regular courses on Buddhist philosophy and Tibetan languages, classes on Tibetan traditional woodcarving and *thanka* paintings, etc.

Nava Nalanda Mahavihara, Nalanda was set up in 1956. Its objectives are : to develop a residential centre of education of international importance for the studies in Pali and Buddhism, Buddhist philosophy, logic and epistemology, to admit graduates and oriental scholars of recognised universities/institutions to train them in post-graduate programmes of Buddhist studies and research; to grant academic awards, fellowships, scholarships; to translate and publish Buddhist works from Pali, Sanskrit and other languages, to organise a library of the Buddhist literature, etc.

ANTHROPOLOGICAL SURVEY OF INDIA

Anthropological Survey of India established in December 1945, is a scientific research organisation under the Department of Culture, Ministry of Tourism and Culture with its headquarters in Kolkata and seven regional centres, a sub-regional centre and eight field stations located in different parts of the country including a camp office in New Delhi. Since its inception as a nodal organisation of scientific research in anthropology and allied disciplines, it has the enviable record of conducting bio-cultural research covering the entire range of human evolution in the country.

INDIRA GANDHI RASHTRIYA MANAV SANGRAHALAYA

Indira Gandhi Rashtriya Manav Sangrahalaya, Bhopal, an autonomous organisation under the Department of Culture, Government of India, is dedicated to the depiction of an integrated story of humankind in global perspective with special focus on India. The Sangrahalaya has been developed in the picturesque 200 acre site as a predominantly open air museum, supported by an indoor display related to three broad fields: (a) human evolution and variation; (b) culture and society in pre and proto-historic times; and (c) contemporary cultures. It has set up open-air exhibitions on tribal habitat, coastal village, desert village and Himalayan village through life-size exhibits in authentic environmental settings. The rock shelters found on the museum premises, with historic and pre-historic rock of art paintings, have been developed as another open air exhibition titled 'The Rock Art Heritage'. Regular educational activities and live programmes related to tribal and folk life are conducted in the setting of these exhibitions. There is an indoor facility for periodical and special exhibitions. The Sangrahalaya is also developing an indoor museum. The other programmes being carried out by this organisation are the salvage of anthropological objects of national heritage, research projects and multi-media documentation of cultures.

Live demonstration of techniques, folk culture, folk and classical music are also organised periodically in open air settings. For the dissemination of recent museum methods, the Sangrahalaya organises lectures, seminars, colloquia, etc. The museum also undertakes audio, video, photo, cine and textual documentation and research and field projects on various aspects of Indian society and culture for better understanding, salvage and revitalization of the rich cultural heritage of the country.

The Museum has a large, well-equipped library and subscribes to national and international journals. It also has hundreds of hours of audio-visual cassettes, a video-audio unit, a sizeable multi-media facilities for research and documentation.

PROMOTION OF CULTURE

CENTRE FOR CULTURAL RESOURCES AND TRAINING

The Centre for Cultural Resources and Training (CCRT) set up in May 1979 as an autonomous organisation is under the administrative control of the Department of Culture, Ministry of Tourism and Culture. With headquarters in New Delhi, it has two regional centres at Udaipur and Hyderabad.

The broad objectives of the CCRT have been to revitalise the education system by creating an understanding and awareness among students about the plurality of the regional cultures of India and integrating this knowledge with education. It conducts training programmes for in-service teachers from all parts of the country. An important component of training is to create an awareness, amongst students and teachers of their role in solving environmental pollution problems and conservation and preservation of the natural and cultural heritage. It has also been organising academic programmes on Indian art and culture for foreign teachers and students. Workshops are conducted in various art activities like drama, music, narrative art forms, etc.

The CCRT organises various educational activities for students, teachers and children which include, educational tours to monuments, museums, art galleries, craft centres, zoological parks and gardens, camps on conservation of natural and cultural heritage, camps on learning crafts, lectures and demonstrations by artists and experts on various art forms, demonstrations by artists and craft persons in schools.

Over the years, CCRT has been collecting resources in the form of scripts, colour slides, photographs, audio and video recordings and films.

The CCRT implements the Cultural Talent Search Scholarship Scheme since 1982. The scheme provides scholarships to outstanding children in the age group of 10 to 14 years, studying either in recognised schools or belonging to families practising traditional performing or other arts to develop their talent in various cultural fields particularly in rare art forms. The scholarships continue till the age of 20 years or the first year of a University degree. About 300 scholarships are offered every year. Since inception, 5,258 students have been offered scholarships till March 2001. The Centre has also instituted CCRT Teachers' Award which is given every year to selected teachers. The Award carries with it a citation, a plaque, an *angavastram* and an amount of Rs 10,000. So far 356 teachers have been presented CCRT Teachers' Awards.

ZONAL CULTURAL CENTRES

Zonal cultural centres have been conceptualised with the aim of projecting

cultural kinships transcending territorial boundaries. The idea is to arouse and deepen awareness of the local cultures and to show how these merge into zonal identities and eventually into the rich diversity of India's composite culture.

The seven zonal cultural centres established under this scheme are: (i) North Zone Cultural Centre, Patiala; (ii) East Zone Cultural Centre, Kolkata; (iii) South Zone Cultural Centre, Thanjavur; (iv) West Zone Cultural Centre, Udaipur; (v) North-Central Zone Cultural Centre, Allahabad; (vi) North-East Zone Cultural Centre, Dimapur and (vii) South-Central Zone Cultural Centre, Nagpur. The participation of states in more than one zonal cultural centre, according to the cultural linkages, is a special feature of the composition of the zonal centres.

RAMAKRISHNA MISSION INSTITUTE OF CULTURE

Ramakrishna Mission Institute of Culture, Kolkata is engaged in the promotion of thought, knowledge and education. Apart from its cultural activities at national and international levels, the Institute also maintains several schools of instruction.

INDIRA GANDHI NATIONAL CENTRE FOR THE ARTS

Indira Gandhi National Centre for the Arts (IGNCA) was established to commemorate the memory of the late Prime Minister, Mrs Indira Gandhi. The Centre, a fully funded autonomous trust, is visualized as a centre encompassing the study and experience of all the arts - each for its own integrity, yet within a dimension of mutual dependence, inter-relatedness with nature, social structure and cosmology. Through diverse programmes of research, publication, training, creative activities and performance, the IGNCA seeks to place the arts within the context of the natural and human environment. IGNCA has been recognised as a research centre on Indian Arts for Ph.D degrees by Delhi University. It has two field centres at Varanasi and Guwahati.

CENTENARIES AND ANNIVERSARIES

One of the important activities undertaken by the Government of India has been the commemoration of the centenaries of distinguished Indians who have left an indelible impression on the history and life of our country. National committees are set up for the centenaries which are considered to be of such importance. Year long programmes are drawn up by the committees for implementation during the centenary year. These programmes normally include organisation of national seminars, installation of statues, release of commemorative stamps and coins, publications and exhibitions and other functions. The Department of Culture also provides financial assistance to registered voluntary organisations for celebrating the centenaries of outstanding personalities which are not taken up for celebration by the Government of India.

GANDHI SMRITI AND DARSHAN SAMITI

Gandhi Smriti and Darshan Samiti (GSDS) was set up by the Department of Culture in 1984 primarily to maintain and look after the national memorial where Gandhiji was assassinated and now called 'Gandhi Smriti' and a permanent photo exhibition at Rajghat called 'Gandhi Darshan', which was created at the time of Gandhiji's birth centenary in the year 1969. The institution has brought out a number of books on Gandhi, communal harmony and national integration. It also publishes a quarterly newsletter to create awareness about the GSDS and also organises annual Gandhi Memorial Lectures by eminent scholars both in India and abroad.

Gandhi Smriti at Tees January Marg, New Delhi is a national memorial now. It houses many memories of the last 144 days of Mahatma Gandhi and forms part of the rich national heritage. Gandhi Darshan offers a comprehensive exhibition on Gandhi.

MAULANA ABUL KALAM AZAD INSTITUTE OF ASIAN STUDIES

Maulana Abul Kalam Azad Institute of Asian Studies, under the administrative control of the Department of Culture is the centre for research and training of the life and works of Maulana Abul Kalam Azad and for the study of the social, cultural, political and economic movement in Asia from the middle of the 19th century. The Institute also maintains a library of books, newspapers, still photographs and materials on the secular traditions of modern India and events of the 19th century. It maintains a personal museum at the former residence of Maulana Abul Kalam Azad, which highlights the life and works of Maulana Abul Kalam Azad as a distinguished national leader and thinker.

GANDHI PEACE PRIZE

On 2 October 1994, on the occasion of the 125th birth anniversary of Mahatma Gandhi, the Government of India instituted an Annual International Gandhi Peace Prize to encourage and promote the significance of Gandhian values the world over. The Prize carries a cash award of Rs one crore, a citation and a plaque. The Prize is decided by a five-Member Jury headed by the Prime Minister of India. The first ever Gandhi Peace Prize for 1995 was given to Dr Julius K. Nyerere, former President of Tanzania. The Prize for 2000 was jointly conferred on Dr. Nelson Mandela, former President of South Africa and Grameen Bank, Bangladesh by the President of India.

FESTIVALS OF INDIA

The Government of India has organised Festivals of India in the United Kingdom, USA, France, Soviet-Union, Sweden, Germany, China, Japan and Thailand. Reciprocally, Festivals of USSR, France, Sweden, Japan, China, Thailand and Germany have been held in India.

7 Scientific and Technological Developments

INDIA has a long and distinguished tradition in science and technology from the ancient times to great achievements during this century; the latter half prior to independence has been related largely to pure research. In the past four decades, an infrastructure and capability largely commensurate with meeting national needs has been created minimising our dependence on other countries. A range of industries from small to the most sophisticated has been established covering a wide range of utilities, services and goods.

SCIENCE AND TECHNOLOGY INFRASTRUCTURE

Scientific and technological activities in India are carried out under a wide set-up consisting of Central Government, State Governments, higher educational sector, public and private sector industry and non-profit institutions/associations. These institutional structures are the main contributors to research and development being carried out in the country. Notable among these are : the Council of Scientific and Industrial Research (CSIR); Indian Council of Agricultural Research (ICAR); Indian Council of Medical Research (ICMR). In addition, there are many departmental laboratories of various departments/ministries, *viz.*, Department of Atomic Energy, Department of Electronics, Department of Space, Department of Ocean Development, Defence Research and Development Organisation, Ministry of Environment and Forests, Ministry of Non-Conventional Energy Sources and the Ministry of Science and Technology. Further, there are over 1,200 in-house research and development units in industrial undertakings supporting research in their respective industries. Many Indian Universities and Deemed Universities such as IITs also undertake substantial research and development work.

TECHNOLOGY POLICY STATEMENT

Technology Policy Statement (TPS) was formulated in 1983 with the basic objective of developing indigenous technology and ensuring efficient absorption and adaptation of imported technology appropriate to national priorities and availability of resources. A Technology Policy is being formulated to provide focus on the development of indigenous technologies and to make India self-reliant and competitive in the technological field.

PROGRAMMES OF THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

The Department of Science and Technology, was set-up in May 1971 with the objective of promoting research in the new areas and to play the role of a nodal department for organising, coordinating and promoting science and

technology activities in the country. Over the years, the Department has evolved policy statements and guidelines, provided mechanisms for co-ordination in the areas of science and technology in which a number of institutions have interests and capabilities, supported grants-in-aid to scientific institutions and professional bodies.

RESEARCH AND DEVELOPMENT PROGRAMMES

The Department of Science and Technology has been playing a crucial role in identifying and promoting front-line and priority areas on Research and Development (R&D) in various disciplines of science and engineering. This support, is provided through Science and Engineering Research Council (SERC) - an advisory body consisting of eminent scientists and technologists drawn from academic institutions like IITs, universities, national laboratories and industry. Every year around 1,000 project proposals are received for consideration in the Department, most of which fall in the category of basic sciences and engineering research.

On the occasion of the 50th anniversary of India's Independence, the Government launched *Swarnajayanti Fellowships* for enabling outstanding young scientists to attain world class levels in science. The Fellowships are open to Indian scientists in the age group of 30-40 years, with proven capability for outstanding research work exploring new frontiers in their field of specialisation.

INFRASTRUCTURE DEVELOPMENT

'Intensification of Research in High Priority Areas' - IRHPA which was initiated during the Sixth Plan period, has helped in strengthening of the infrastructure and research capabilities in selected areas of science and engineering. Under this programme, units/core groups and National Research Facilities are established around an outstanding scientist to act as a focal point to nucleate research activity in these areas.

Facilities of sophisticated analytical instruments are provided to the scientists working in universities, R&D laboratories and industries through a programme of setting-up Regional Sophisticated Instrumentation Centres (RSICs) and Sophisticated Instrument Facilities (SIFs). RSICs are being supported at seven institutions namely IIT, Chennai; IIT, Mumbai; Bose Institute, Kolkata; CDRI, Lucknow; Punjab University, Chandigarh; NEHU, Shillong; and Nagpur University, Nagpur. The new Sophisticated Instrumentation Centre for Research and Testing has been set-up at Vallabh Vidyanagar, Gujarat. The SIFs are in operation at IISc., Bangalore ; AIIMS, New Delhi; and Gauhati University, Guwahati. EPMA facility is being supported under the programme of Roorkee University, Roorkee.

HUMAN RESOURCE DEVELOPMENT

The Department also supports different programmes aimed at identifying new talent and provide them with financial assistance in the form of fellowships for pursuing research in front-line areas of science and technology. Also, for

the researchers the Department supports training programmes, summer schools and contact programmes. The programmes supported are: BOYSCAST fellowships, SERC student fellowships, etc. Fellowships are also awarded to undergraduate students to get first hand exposure of research in leading research laboratories.

In order to motivate bright young minds at their secondary school/college levels, and to encourage them to stick on to a career in science, a new scheme called *Kishore Vigyanik Protsahan Yojana* has been initiated. Talent would be scouted through a competitive mechanism at school level and scholars would be selected for an attractive fellowship/scholarship until they pass their Masters Degree in Science. Further, in order to generate trained manpower in selected areas of science and technology, training courses, summer/winter schools were organised in theoretical chemistry, earth sciences, astronomy and astrophysics, lasers, optics, atomic and molecular physics.

TECHNOLOGY DEVELOPMENT AND RELATED PROGRAMMES

The Department has been catalytic in identifying, formulating and implementing a number of technology development programmes with the help of industries and socio-economic ministries. Efforts of the Department in this direction have helped in initiation of multi-institutional programmes in the emerging area of technology. As a part of this programme, projects were continued to be supported in the areas such as instrument development, advanced materials, critical technology, sugar technology, flyash utilisation, and advanced composites.

As per the provision of the Technology Policy Statement of 1983 and following the recommendations of the Technology Policy Implementation Committee, the Department has set up an autonomous body - Technology Information Forecasting and Assessment Council (TIFAC). The main objectives of TIFAC include generation of Technology Forecasting and Technology Assessment and Techno Market Survey (TMS) documents and enabling a Technology Information System. Technology Forecasting/Technology Assessment studies have been carried out in a number of areas such as sugar industry, steel, materials technology, human settlement planning, automated machinery and production systems, foundry modernisation, energy, high volume industrial gases, prospects for biotechnology products in India by 2000 AD in health and agricultural sector, fertilizers - a relook, and a comprehensive picture of Science and Technology status in India. So far, about 250 specialised reports have been brought out by TIFAC that include a 25 volumes report (covering 17 sectors) on Technology Vision 2020.

One of the important activities being pursued by TIFAC is the promotion of specific home grown technologies which is expected to strengthen the linkages between research institutions and industry by commercialisation of technologies developed indigenously. Under this activity, 50 projects have been completed so far and out of these 11 technologies have been transferred successfully.

The Technology Vision 2020 reports brought out by TIFAC present a long-term technology forecast in the diverse areas such as agro-food processing, civil aviation, electric power, waterways, road transportation, food and agriculture, health care, life sciences and biotechnology, advanced sensors, engineering industries, materials and processing, services, strategic industries, electronics and communication, chemical process industries, telecommunication and driving forces-impedance. The TIFAC has constituted 13 action teams which are to generate necessary linkages and specific project proposals to realise vision into missions.

A Patent Facilitating Cell has been set up in TIFAC with the objectives of introducing patent information as a vital input in the process of promotion of R&D programmes, provide patenting facilities for scientists/technologists of the country on a sustained basis, keep a watch on developments in the areas of intellectual property rights, create awareness and understanding relating to patents and undertake studies and analysis of policy related to TRIPS agreement and other agreements under World Trade Organisation, etc. The cell has so far organised 94 awareness workshops sensitizing large number of scientists/technologists from various universities, government R&D institutions and industries. 123 patent applications have been filed so far. Patent facilitating cell has also brought out two CD ROM databases namely EKASWA-A on patent applications filed in India and EKASWA-B on patents accepted and notified for opposition by the patent office. The two disks contain data from 1995. IPR bulletins covering different aspects of patents are being brought out regularly.

TIFAC has joined hands with CMC Limited in view of their experience in information technology areas and the nation-wide network through Internet. TIFACLINE services are now available for online access from major cities like Bangalore, Delhi, Chennai, Hyderabad, Mumbai and Kolkata through CMC's INDONET. TIFAC and CMC have also created a new database on Technology Sourcing Worldwide. The database currently has 4,400 records on technologies ready for transfer/acquisition from various countries across the world. International linkages have been established by TIFAC with ASEAN, WAITRO and IATAFI. In addition, TIFAC regularly interacts with industry associations such as CII, ASSOCHAM, FICCI on various issues.

To promote innovation among entrepreneurs, a new golden jubilee initiative called "Technopreneur Promotion Programme (TePP)" has been initiated. The main thrust of TePP will be to tap the vast untapped innovative potential of the Indian innovators. The support is supposed to be provided to projects of individual innovators towards scaling-up the idea/ invention/ know-how/designs to working models/prototypes/pilot plants. Besides the financial support, the endeavour would be to link and couple them to the most appropriate existing R&D facilities and expertise; assist them in patent search/filing of patents; interface for tying-up with financial institutions for commercial exploitation, etc.

The Department of Science and Technology under its scheme on "Drugs and Pharmaceuticals Research" supports collaborative Research and

Development projects jointly submitted by drug companies and the academics national R&D institutes. The programme aims towards the development of new drugs and cleaner process technologies for known drugs/key intermediates for drugs. The programme covers all systems of medicine - Allopathic, Ayurvedic, Homoeopathic, *Siddha* and *Unani*. National Facilities essential to undertake R&D have also been set up under this programme. Specific Mention may be made of the Medium Throughput Facility at CDRI, Lucknow; Immunomodulating Potential Testing Facility at IICB, Kolkata and Pharmacology Facility at CDRI, Lucknow.

TECHNOLOGY DEVELOPMENT BOARD

The Technology Development Board (TDB) was constituted in September 1996. The Board provides financial assistance to industrial concerns and other agencies for attempting development and commercial application of indigenous technology or adapting imported technology for wider domestic application. Since its formation, the Board has signed 87 agreements with commercial enterprises and three other agencies spread over 15 States/UTs. The total project cost is of Rs 988.47 crore against which the Board had committed Rs 358.08 crore financial assistance. The areas that got financial assistance from the Board were health and medicine, engineering and electronics, chemicals and lubricants, agriculture and biotechnology, information technology, road/air transport, energy and waste utilisation, and telecommunication.

TDB has instituted a 'National Award for successful commercialisation of indigenous technology' by an industrial concern to be given away on the Technology Day (11 May) every year commencing from 1999.

NATIONAL ACCREDITATION BOARD FOR TESTING AND CALIBRATION LABORATORIES

National Accreditation Board for Testing and Calibration Laboratories (NABL) was registered as a society on 12 August 1998 under Societies Registration Act. NABL continued its activity of according accreditation to testing and calibration laboratories after thorough assessment by the experts. Till date, 310 testing laboratories and 105 calibration laboratories have been accredited by the Board. The Board has been publishing a quarterly newsletter *NABL NEWS*.

SCIENCE AND TECHNOLOGY PROGRAMMES FOR SOCIO-ECONOMIC DEVELOPMENT

The Department of Science and Technology is also devoted to evolving and implementing specific programmes to promote applications of S & T to improve the quality of life especially for the disadvantaged sections of the society. The areas in which significant achievements have been made are: setting-up of two Technology Parks for women; low cost housing and sanitation; integrated land water and cover management; eco-restoration and sustainable use of biomass in the hilly region; artisanal pottery; artisanal blacksmithy; artisanal leather tanning; training of agricultural labour (SC youth) in the use of modern agricultural appliances for improved agricultural

productivity; farm oriented low-cost technology for utilisation of *Azolla* as biofertilizer; developing livelihood base for tribals in Melghat region through watershed development, etc. A number of projects are being supported both in farming and non-farming sectors after identifying specific areas in north-eastern states including Sikkim.

National Science and Technology Entrepreneurship Development Board (NSTEDB) established in January 1982 has been implementing several schemes and programmes on promotion of entrepreneurship and creation of sustainable employment through the application of S&T. About 22,500 S&T persons have been trained under Entrepreneurship Development Programmes (EDPs) organised by the Board of which 4,500 persons have set up their own ventures. The Board has also been organising skill development programmes in various trades. So far about 77,000 persons have been trained and provided with sustainable job/self-employment opportunities.

Science & Technology Entrepreneurship Parks (STEPs) have been set up in and around 15 different S&T institutions in the country in order to provide facilities to existing as well as start-up entrepreneurs on technology development, testing and calibration, documentation and computation, training, etc. A scheme for establishment of Technology Business Incubators (TBIs) has been launched in 2000-01 to promote the growth of technology based enterprises and to foster faster commercialisation of R&D results. TBIs are being established in and around academic and R&D institutions in the country. Entrepreneurship Development Cells (EDCs) have been established in academic institutions for creating facilities for the promotion of entrepreneurship and other avenues of self/wage employment among qualified S&T personnel. Projects under Science & Technology Entrepreneurship Development Scheme (STEDS) are in operation in 25 backward districts. STEDS projects aim at establishment of micro-enterprises in the district of its operation. For those unable to join regular Entrepreneurship Development Programmes (EDPs), Open Learning Programmes in Entrepreneurship (OLPE) was initiated in 1994-95 in collaboration with Entrepreneurship Development Institute of India (EDII), Ahmedabad. Board has launched a website www.techno-preneur.net.

NATURAL RESOURCES DATA MANAGEMENT SYSTEMS

The Natural Resources Data Management programme is being implemented to upgrade the existing data management methodologies at the district level to facilitate decision making process with regard to local area management and development. Launched in 1982-83, the programme involves several R&D institutes of national repute, universities and non-governmental agencies in a consortium mode. As a part of this programme, spatial and non-spatial databases are being generated and updated at the state and district GIS centres.

STATE S & T COUNCILS

The Department of Science and Technology has been operating a scheme entitled 'Assistance for Development of State Councils on Science and Technology' since 1980. The main objective of the scheme is to assist States

and Union Territories in setting-up State Councils on Science Technology which in turn could help the states in formulation, planning, coordination and promotion of S&T activities within their areas. The State Councils on Science and Technology have been set-up in all States and UTs.

SCIENCE COMMUNICATION AND POPULARISATION

National Council for Science and Technology Communication (NCSTC), has been engaged in science and technology communication/popularisation and inculcation of scientific temper among the people. The emphasis has been on the development, adaptation, promotion and use of different communication technologies and techniques utilising various media - traditional and non-traditional. The activities undertaken centered around few natural phenomena and specific events utilising these for S and T communication.

The National Children's Science Congress is an important activity involving children in the age group of 10-17 years from all over the country. The programme is envisaged to encourage the students to relate the learning of science to the environment around, to their immediate social and physical environment and provide them a forum to interact with scientists to quench their curiosity and thirst for creativity. In this programme, children in teams of five each on an average, take up scientific projects related to the local issues, work under the guidance of teachers/science activists, and report their findings at school/block, district, state and national level congress. The 2000 National Children's Science Congress was organised at Howrah, West Bengal.

A programme has been developed for promoting voluntary blood donation in the country with the objective of meeting the near total requirement of blood from healthy voluntary donors. Bibliographies of popular science books in different Indian languages published during the last 150 years have been compiled. To create awareness on issues of environment and sustainable development several resource persons have been trained to organise activities for coordinators of school science clubs and activities of S&T based voluntary organisations.

VIGYAN PRASAR

Vigyan Prasar was established in 1989 to take up large scale science popularisation programmes. Efforts are underway to put together a network of Science Clubs for spreading scientific awareness and promoting use of scientific methodology in our lives. A CD-ROM on Eclipses is being developed to mark the last solar eclipse of the century. *Vigyan Prasar* launched a monthly newsletter *DREAM 2047*, focusing on its activities and programmes. *Vigyan Prasar* Network (VIPNET) is networking and weaving together science clubs, societies, organisations that are already established, functioning actively or are going to be formed.

S AND T RESOURCES INFORMATION

The Department of Science and Technology makes available on a continuous basis information on resources on manpower and financial resources devoted

to science and technology activities. The latest directory of R&D institutions in India covers names and addresses of 2,900 R&D institutions under Central Government, State governments, in-house R&D units of public sector and private sector industries, universities including deemed universities and institutes of national importance, and scientific and industrial organisations in the private sector.

INTERNATIONAL CO-OPERATION

International Science and Technology cooperation is realised at three levels, viz., bilateral cooperation with developed and developing countries, regional cooperation such as with SAARC, ASEAN and BIMST countries; and multilateral cooperation through NAM S&T Centre, COSTED, UNESCO, etc. India has got bilateral science and technology cooperation with 53 countries of the world. In addition to ongoing programmes of science and technology cooperation with developed as well as developing countries, new inter-governmental agreements of cooperation were concluded with Portugal and Malaysia.

Bilateral cooperation with France continued through the active involvement of Indo-French Centre of the Promotion of Advanced Scientific Research and 18 new projects were approved in the areas of Cellular/Molecular Biology/Genetics, Medical Science, Materials Science, Engineering, Water Resources, etc. Indo-German Committee on Science and Technology agreed that priority areas for bilateral cooperation for the next two years would include Information Technology, Advanced Materials, Biotechnology, Genetic Engineering, Antarctic Research, Space Science and Technology, etc. The new programme of cooperation (POC) in S&T for 1996-2001 with Italy consists of joint research projects, exploratory missions, advanced training and expert assistance in the areas of Materials Science and Technology, Medicine and Health, Energy and Environment, Physics, etc. Under continued India-Japan Programme of Cooperation, Super Photon Ring Facility (Spring 8) of Japan has extended facilities to Indian Research Groups for conducting fundamental studies in Materials, Protein Crystallography and other Particle Physics experiments. A widespread and well-knit S&T cooperation programme between India and Russia, approved 127 projects for implementation and announced several new initiatives. A joint meeting to discuss new India-RU S&T initiatives was held in Brussels.

METEOROLOGICAL SERVICES

The India Meteorological Department (IMD) was established in 1875. It is the National Meteorological Service and the principal government agency in all matters relating to meteorology, seismology and allied subjects. The Department has units all over the country engaged in collecting meteorological and seismological data besides providing various meteorological services. Its main objective is to provide meteorological information for weather sensitive activities like aviation, shipping, agriculture, irrigation, off-shore oil exploration and industries. The Department also issues warnings against severe weather phenomena like cyclones, dust-storms, heavy rains, cold and heat waves that

cause destruction of life and property. Besides, it also provides climatological information, records earthquakes and promotes research in meteorology. The Department maintains an extensive network of modern observatories and communication links all over the country.

INSAT Meteorological Data Processing System is being upgraded to handle reception, processing of data from INSAT 2E Satellite.

National Seismological Database Centre (NSDC) has been established at IMD, New Delhi for collection, analysis and archival of earthquake data. Under modernisation of seismological observatories in peninsular region, 10 seismological observatories are being upgraded by installing Digital Broad Band Seismograph Systems.

India Meteorological Department continues to participate in multi-disciplinary scientific cruises of Ocean Research Vessel in the Arabian Sea, Bay of Bengal and Indian Ocean, etc., during pre-monsoon, monsoon, and post-monsoon periods. These cruises are planned to collect meteorological data over the adjoining sea areas for the study of various aspects of monsoon circulation and other important weather systems affecting the country and also to validate satellite data of meteorological parameters on board the Indian Remote Sensing Satellite (IRS P3) as and when required. A laser humidity sensor for use in Radiosonde, namely Carbon Hygrometer was developed indigenously in IMD. It has been field tested and introduced operationally at one upper air station with a plan to use it in the whole network.

The first operational Long Range Forecast of seasonal southwest monsoon rainfall (June-September) of India was issued by IMD in 1966. Since 1968 a new technique was used to give the operational long range forecast for the country as a whole. The technique uses 16 parameters Power Regression and Parametric Model. Since 1991, additional three models are operational - Power Transfer Model, Principal Component Regression Model and Hybrid Neural Network Model.

The Crop Yield Formulation Unit of the Department has developed statistical models using correlation and regression techniques to forecast crop yield on operational basis for 26 sub-divisional growing. Chief rice and for 16 sub-divisions growing wheat. Based on these models, pre-harvest monthly crop yield forecast for Chief rice are being prepared for every year from August to December and for wheat from January to May.

IMD has also installed 250 Cyclone Warning Dissemination Systems (CWDSS). This is unique in the world and helps in direct broadcast of Cyclone warning to the public in ground and coastal authorities in particular. IMD publishes its quarterly journal *Monsoon*, annual publications of Indian Astronomical, Ephemeris, *Endeavour* *Publication* in 12 languages and Sunrise, Sunset, Moonrise and Moonset tables are brought out by the Postnatal Astronomy Centre, Kolkata.

National Centre for Medium Range Weather Forecasting (NCMRWF) provides the medium range weather forecasts to the farmers by using global

numerical model and agrometeorological advisories (AAS) in various agro-climatic zones through its 81 field units. These units are located at State Agricultural Universities and ICAR research institutes.

NCMRWF also provides the forecast products to India Meteorological Department, Indian Air Force, Indian Navy, Snow and Avalanche Studies Establishment and other non-governmental organisations. Forecasts are being issued for defence applications, flood forecasting, summer monsoon onset and its progression, important national functions, etc.

SURVEY OF INDIA

Survey of India (SOI), the national survey and mapping organisation under the Ministry of Science & Technology was set up in 1767. The primary responsibility of SOI is to maintain topographical map coverage on 1:250 K, 1:50K and 1:25 K scales. The topographical map coverage on 1:250 K and 1:50 K scales covering the entire country have been completed and the map sheets are being updated at regular intervals to depict latest spatial information. Surveys on 1:25 K scale are being taken up as national requirement keeping in view the priorities indicated by the Central/State governments and other user agencies.

SOI has been called upon extensively to deploy its expertise in the field of geodetic & geophysical surveys, study of seismicity and seismotectonics, glaciology, participation in Indian Scientific Expedition to Antarctica and projects related to digital cartography; and digital photogrammetry, etc., to provide basic data to keep pace with Science & Technology Development. SOI has undertaken creation of Digital Cartographic Data Base of Topographical maps on various scales. The digital data is being used by various agencies for planning and GIS applications. It also undertakes large scale surveys for various developmental projects including hydro-electric, irrigation, command area, canal area, cantt. area schemes, etc.

The Department is responsible to fix the external boundary of India, their depiction on maps published in the country and also advise on the demarcation of inter-State boundaries.

Survey of India also provides support to neighbouring countries in the field of survey education, transfer of technology and various other surveying technologies under bilateral arrangements.

In the recent time, a Task Force was set up for the establishment of a National Geospatial Data Infrastructure (NGDI). Survey of India with its vast storehouse of Geospatial data, will serve as the engine for the NGDI. The creation of NGDI framework will provide the necessary facilities and structure of relationships among the data producers and users that will facilitate data sharing.

Survey Training Institute, Hyderabad is a premier institution for training in various disciplines of surveying and mapping to the trainees sponsored

by the department, other State/Central Government organisations and neighbouring countries.

NATIONAL ATLAS AND THEMATIC MAPPING ORGANISATION

While Survey of India meets the national needs in cartography, some specialised thematic maps required to meet the needs of the specific users are taken care of by the National Atlas and Thematic Mapping Organisation (NATMO), operating under the Department.

AUTONOMOUS SCIENTIFIC INSTITUTIONS

The Department of Science and Technology provides grants-in-aid to the following 13 autonomous scientific research institutions engaged in frontier areas of research in basic and applied sciences: (i) Bose Institute, Kolkata is devoted to fundamental and applied research in physical and life sciences; (ii) Agharkar Research Institute, Pune—research in basic and applied aspects in the fields of biological sciences; (iii) Shri Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram - developing biomedical engineering and technology; providing and demonstrating high standards of patient care in advanced medical specialities and developing post-graduate training programme of the highest quality in these fields; (iv) Indian Association for the Cultivation of Sciences, Kolkata—studies on solid state physics, material sciences, theoretical physics, spectroscopy, energy research, chemistry including biological chemistry, polymer science, etc.; (v) Indian Institute of Tropical Meteorology, Pune—functions as a national centre for basic and applied research in tropical meteorology; (vi) Indian Institute of Astrophysics, Bangalore—research in emerging as well as interdisciplinary areas of astrophysics and heavenly bodies, and development of instruments used in astrophysical studies; (vii) Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore—research in frontier areas of chemistry, physics of materials, computational fluid dynamics, geodynamics, condensed matter theory, animal behaviour, genetics, etc.; (viii) Raman Research Institute, Bangalore—research in basic sciences such as astronomy, astrophysics, liquid crystals, etc; (ix) S.N. Bose National Centre for Basic Sciences, Kolkata—promoting advanced studies in selected branches of basic sciences; (x) Birbal Shahni Institute of Palaeobotany, Lucknow—research in the area of palaeobotany, its relevance in modern context, (xi) Indian Institute of Geomagnetism, Mumbai—observing and understanding some of physical processes taking place in the innermost crusts of the earth as well as phenomena occurring on the sun and in near earth and interplanetary space; (xii) Wadia Institute of Himalayan Geology, Dehradun—basic research in areas of biostratigraphy, petrology and geochemistry, sedimentology, tectonics and environmental geology to understand the geodynamics of the Himalayan region and (xiii) International Advanced Research Centre for Powder Metallurgy and New Materials, Hyderabad—the development of high performance materials, and processes.

DST also extends financial and administrative support to the following academies and professional bodies which are engaged in the promotion of

S and T in the country through the involvement of scientists and engineers; (i) Indian Academy of Sciences, Bangalore; (ii) Indian National Science Academy, New Delhi, (iii) Indian National Academy of Engineering, New Delhi; (iv) National Academy of Sciences, Allahabad and (v) Indian Science Congress Association, Kolkata.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

The Department of Scientific and Industrial Research (DSIR), a department under the Ministry of Science & Technology comprises of the activities of the Council of Scientific and Industrial Research (CSIR), four departmental schemes, *viz.*, Research and Development by Industry (RDI), Programme Aimed at Technological Self-Reliance (PATSER), Scheme to Enhance the Efficacy of Transfer of Technology (SEETOT) and National Information System for Science and Technology (NISSAT) and two public enterprises, *viz.*, National Research Development Corporation (NRDC) and Central Electronics Limited (CEL).

RESEARCH AND DEVELOPMENT BY INDUSTRY

A strong S&T infrastructure has been established in the country. This covers a chain of national laboratories, specialised centres, various R&D and academic institutions and training centres. The Department of Scientific & Industrial Research is the nodal department for granting recognition to in-house Research and Development Centres. There were 1,178 units having valid recognition as on 31 December 2000. During 2000, 60 in-house R&D Centres were accorded fresh recognition and 439 Centres were accorded renewal of recognition; 14th National Conference on in-house R&D in industry was organised; and DSIR National Awards for Outstanding in-house R&D Achievements (2000) were presented to seven industrial units.

Scientific research foundations in the areas of medical, agriculture, natural and applied sciences and social sciences seek DSIR approval as Scientific and Industrial Research Organisations (SIROs), under the DSIR scheme of granting recognition to SIROs. The SIROs approved by DSIR are eligible for availing customs duty exemption on import of equipment and consumables/material, and excise duty exemption on the purchase of essential scientific and technical instruments, apparatus, equipment (including computers), accessories and spare parts thereof and consumables required for research and development activities and programmes. During the year 2000, 33 new SIROs were accorded DSIR recognition.

PROGRAMME AIMED AT TECHNOLOGICAL SELF-RELIANCE

Under its Plan Scheme "Programme Aimed at Technological Self-Reliance (PATSER)" the department promotes industry's efforts in development and demonstration of indigenous technologies. Over 120 PATSER projects of industrial units have so far been supported. Some of the products/ processes developed under PATSER projects include, digested organic supplement from organic waste, xenon and krypton lamps for laser pumping, 6 Hi cold rolling mill, industrial gas burners, nuclear moisture & density gauge, multilingual

pager, auto switches based on rapid prototyping, etc. Products/processes under development include, SG iron crank shaft, state-of-the-art material handling equipment, a mechanized process for biocomposts out of distillery effluents, heat resistant slurry explosives, a new technology for pyrazinamide and a combination drug for TB. The scheme has been successful in catalyzing and synergising industry and national research organisations, for indigenous development of novel products and processes for their subsequent commercialisation.

The "Technopreneur Promotion Programme (TePP)" is jointly operated by Department of Scientific & Industrial Research (through PATSER scheme) and Department of Science & Technology (through HGT scheme of TIFAC) to tap the innovative potential of Indian citizens. TePP acts as a crucible to promote individual innovators to become technology based entrepreneurs (Technopreneurs). So far, 47 innovative proposals of individual innovators have been supported under TePP for the development of working models/prototypes. Some of the products/processes developed under TePP include tiltable bullock cart, cost effective polythene bag filling device-Kittanal, innovative cotton stripper. Products/processes being developed include fire fighting 'ROBOT', cattle driven pump, disk-brakes for rickshaws and bicycles, natural vegetable dyes and hydrogen-oxygen gas welding machine. A number of products/prototypes supported under TePP were displayed during the 88th session of "Indian Science Congress-2001" held in New Delhi in a special pavilion "Innovative India" under the broad theme of "Mind to Market".

SCHEME TO ENHANCE THE EFFICACY OF TRANSFER OF TECHNOLOGY

The Scheme to Enhance the Efficacy of Transfer of Technology (SEETOT) covers sub-schemes, *viz.*, National Register of Foreign Collaborations (NRFC); Transfer and Trading in Technology (TATT); and Promotion and Support to Consultancy Services (PSCS).

NRFC scheme primarily aims to facilitate efficient acquisition and management of technology in the country. Some of the major activities/achievements under the scheme during 2000-01 have been: studies on technology development and management, *e.g.*, Status and Prospects of Electronics Industry in Eastern and North-Eastern States, Status of Minor Forest Produce based Industries in Madhya Pradesh and Valuation of Intellectual Property Right; case studies on managing technologies at enterprises level; and training and management programmes in technology and knowledge management.

TATT scheme aims at promoting technology intensive exports including exports of technologies, projects and services. The TATT scheme has helped in establishing and promoting linkages between government, industry, R&D laboratories/institutions, national and international export promotion agencies, etc., for enhancing our technology related exports. Some of the major activities/achievements under the scheme during 2000-01 have been: Quarterly

Newsletter and Compendium on Technology Exports; Technology Exports Pavilion at India International Trade Fair, New Delhi; promotion of a Technology Export Development Organisation at CII; participation of R&D laboratories at Indian Industrial Technology Exposition in Egypt; etc.

The scheme on PSCS essentially aims to promote and strengthen consultancy capabilities for both domestic and export markets. Some of the major activities/achievements under the scheme during 2000-01 have been: Food Processing and Services Centre at Kanpur; Consultancy Clinics at Bhilwara (Textiles) and Katni (Lime Kiln); and support to Consultancy Development Centre (CDC) & Technical Consultancy Development Programme for Asia and the Pacific (TCDPAP).

NATIONAL INFORMATION SYSTEM FOR SCIENCE AND TECHNOLOGY

The National Information System for Science and Technology (NISSAT) Programme was initiated with the objective of organising information support facilities for researchers and academicians. NISSAT has been continuously re-orienting its programmes and activities in tune with the changing global scenario and national efforts of liberalisation and globalisation of the economy. Major efforts of NISSAT have been to establish linkages between information resource developers and users in India and other countries.

NATIONAL RESEARCH DEVELOPMENT CORPORATION

National Research Development Corporation (NRDC), a public sector enterprise is playing a catalytic role in commercial applications of indigenous and foreign R&D results by transfer of technology from laboratories to industries. It is the one stop provider of comprehensive business services, devoted to satisfying the needs of the technology supplier on the one hand and the technology recipient on the other hand. NRDC works in close conjunction with over 200 Indian R&D institutions/universities and has licensed over 2,000 technologies for commercial exploitation, of which nearly 1,000 are in production in India and abroad.

NRDC also guides and assists entrepreneurs in realizing their technical business plans. The portfolio of activities include: arranging financial assistance for development of technologies in priority areas; providing IPR protection & IPR consultancy services; carrying out market surveys; preparation of project reports/business plans; arranging turnkey projects abroad—based on Indian technologies; licensing foreign know-how to Indian clients; assisting export marketing of products of licensee companies, etc. Some of the major technologies licensed by the Corporation during 2000-01 include: *vijetha*; glycol based anti-freeze coolant, anti-corrosive treatment of reinforced concrete rods, test kit for microbiological quality of drinking water; lyposomal amphotericin-B; plantised titanium anodes; electrolytic manganese dioxide and aero microbiological filters for hospitals. The Corporation has also developed an Interactive Multimedia Training Package on Intellectual Property Rights (IPR).

CENTRAL ELECTRONICS LIMITED

Central Electronics Limited (CEL) has been the pioneer in the country in the areas of solar photovoltaics, ferrites & piezo-ceramics. Today, it enjoys international status among the top producers of single crystalline silicon solar cells in the world. Its activities are sharply focussed in three thrust areas: (i) solar photovoltaics (Crystalline Silicon Solar Cells, Modules and SPV Energy Systems); (ii) Electronic Systems (Railways Electronic Equipments, Cathodic Protection Systems for Oil/Gas Pipelines & Very Small Aperture (Satellite) Terminals (VSAT)); and (iii) Electronic Components (Electronic Ceramics, Professional Ferrites for TV and Telecommunications and Defence, Microwave Ferrite Phase Shifters for Missile Radars, Microwave Components). Its major activities/achievements during 2000-01 were : Process Development of Large Area Silicon Solar Cells using Thinner Wafers; Design & Development of Microwave/Millimeterwave Dielectric Resonator Oscillator; Development of S-Band Dual Mode High Power Phase Shifter; Development of 99 per cent Alumina Ceramic bodies and its products.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

The Council of Scientific and Industrial Research (CSIR) was constituted as an autonomous society in 1942. It has an all-encompassing charter which includes promotion, guidance and coordination of scientific and industrial research, funding of laboratories and exploitation of research results for industrial development. It is also charged with rendering assistance to extra mural research. CSIR has over the years established a network of 41 laboratories and 80 field centres spread all over the country. The laboratories conduct R&D in a wide range of fields—from micro electronics to metallurgy, medicinal plants to industrial machinery, chemicals to molecular biology, besides commodities like glass, ceramics and leather. Areas of particular strength in CSIR which have won global recognition for excellence are: aerospace engineering, drugs and pharmaceuticals, bio-science and biotechnology, chemicals (catalysts and polymers), petroleum (refining and petrochemicals), materials (composites), leather (processing, chemicals and product design), geophysics and radiophysics. CSIR is today among the largest chains of public funded industrial research laboratories in the world.

The CSIR family is 22,000 strong, including 5,300 scientists, 60 per cent of whom hold Ph.D. or M.Tech degrees. The annual budget of CSIR is around Rs 800 crore with the Government providing 75 per cent of it as grant and CSIR generating the rest from contract R&D licensing of its technologies, provision of technical services and consultancy. CSIR has made a commercial beginning in the global knowledge-place and earns around US \$ 3 million through contract R&D. The industrial production based on CSIR knowhow in 1999-2000 was Rs 4,400 crore. Over the years, CSIR has developed more than 4,000 technologies, 80 per cent of which are eminently suitable for adoption by small scale industry. CSIR filed around 340 patent applications in India and 200 abroad. It spearheads the intellectual property movement

in the country and has shown the way with its famous opposition of the US patent on turmeric (*Haladi*). CSIR has so far awarded about 50,000 research fellowships/associateships and supported about 10,000 bright young scientists. About 450 outstanding superannuated scientists have been provided financial assistance to make use of their talent and experience for the advancement of science. In 1998-99 CSIR instituted a scheme 'CSIR Programme on Youth for Leadership in Science (CPYLS) under which top fifty students at the secondary school examination (X Class) CBSE and State Boards are invited to visit nearest CSIR laboratories/institutes at CSIR cost for two days.

CSIR is a world class source of technology and technology services for the Indian industry. The range of technological services and support includes resource surveys, problem diagnostics, testing, calibration and certification and manpower training. CSIR has contributed significantly to the dissemination of scientific research results and spread of scientific temper and a culture of creativity in the country. Two separate institutes are devoted to science publication and communication - National Institute of Science Communication (NISCOM) and Indian National Scientific Documentation Centre (INSDOC) both at New Delhi.

ACHIEVEMENTS

Some of the outstanding CSIR products, that closely influence the people's life in India, are the first ever all indigenous low horse power (20 hp) *Swaraj* tractor and *Amul* Baby Food based on buffalo milk, laying the foundation for indigenous baby food industry. There is also a whole range of technical, industrial products worth mentioning. For instance, the all-composite, indigenous, two-seater trainer aircraft *Hansa* made history when its flight figured among the trinity of technological feats on 11 May 1998; the prototype multirole light transport aircraft *Saras* will be ready soon and the parallel super computer *Flosolver* MK3, developed by National Aerospace Laboratories, Bangalore in the league of the very best in the world which can be used for supercomputing needs in such diverse disciplines as monsoon dynamics, structural mechanics, image processing and cryptography.

CSIR has played a crucial role in the transformation of several industrial and other sectors in India like: (1) Chemical industry : CSIR has made global breakthroughs in some areas while in some other areas it has enabled India to break the MNC monopoly/oligopoly; (a) Agrochemicals: About one-fourth of the technical grade pesticide production in India is based on CSIR technology. CSIR has developed target specific pesticides, controlled release formulations and biological methods of pest control for cotton and sweet potato, as also *neem* based insect antifeedant; (b) Petroleum and petrochemicals: CSIR's wide-ranging important contributions include technologies for aromatics (BTX) extraction; food grade hexane; adipic acid (single-step process); visbreaking of petroleum residues; zeolite catalysts (xylofining, hydrodewaxing); Pt-Rereforming catalyst); the industrial production from CSIR technologies in this sector is around Rs 1,500 crore annually;

(c) Industrial catalysts: CSIR has provided the industry knowhow for several known and a few new catalysts; (2) Drugs and Pharmaceuticals Industry: CSIR has contributed novel process routes for at least 30 generic drugs. India has to its credit development of 14 new drugs since Independence, 11 of these have come from CSIR. The latest addition to these drugs is the aablaquin : an antirelapse antimalarial drug from CDRI; (3) Leather Industry: CSIR has provided the industry with world class environmental friendly technologies for the entire range of technical activities from curing, dehairing, tanning and finishing to process automation and modernisation of tannery operations and product design including special leathers. With a view to enhancing the quality and quantum of production CSIR has mounted a Technology Mission for the sustainable development of the leather industry; (4) Coal Industry: CSIR's pioneering work on coal enabled preparation of flow-sheets and specifications for all the washeries that have been set up in the country since 1958; (5) Rural Industries: CSIR has promoted and provided technologies suited to local resource endowments for : low cost housing, semi-mechanised brick making, construction of rural roads, sanitation, drinking water, fire resistant thatched roofs, grain and water storage bins, iodine detection kits, cultivation of medicinal and aromatic plants and extraction of essential oils; (6) Advancement of Knowledge: CSIR has made notable contributions to basic science in several areas. For example (a) Precocious flowering of bamboo, developed by National Chemical Laboratory, Pune, drastically cutting down the natural flowering period of 15 years to a few weeks; (b) Pioneering surveys for and grabbing polymetallic sea nodules in the Indian Ocean bed which conferred on India the first Pioneer Investor status country in the world under the UN Law of the Sea; (c) Cholera: Studies at the genetic level, have led to the development of two candidate vaccines undergoing trial. In a different approach, the combined genetic and physical map of the whole *V. cholerae* genome has been constructed and reported for the first time in the world; (d) *Kala azar*: Understanding basic biology of the parasite, and developing diagnosis and treatment of visceral leishmania; (e) Cataract: Understanding the modifications that occur in the crystalline proteins constituting the human eye lens during ageing; (f) Salt sensitive expression vector to clone and express six divergent genes; (g) Pioneering studies on near space environment ionospheric chemistry, stratosphere-mesosphere coupling and (h) Foundation technology to build on black cotton soil, which opened up hitherto difficult areas of such soil (e.g. in Gujarat and Maharashtra) to construction activities; (7) Resource Exploration : CSIR has helped locate new/additional natural resources, e.g., coal, delineation of structures for hydrocarbons, gas hydrates, new deposits of gold, diamonds and minerals; polymetallic sea nodules rich in manganese and copper; sources of ground water, etc., (8) Environment and Ecology: Through its NEERI, Nagpur CSIR has been at the forefront for environmental systems design and modelling, environmental monitoring and environmental biotechnology. Two most recent technologies developed by CSIR have made sterling contributions to reducing the level of pollution in

the vicinity of the Taj Mahal, viz., (a) cokeless cupola using gaseous fuel to reduce pollution from Agra foundries; and (b) chemo-biochemical desulphurisation of tail gases of Mathura Refinery.

ATOMIC ENERGY

The Department of Atomic Energy (DAE) is a broad-based multidisciplinary organisation engaged in development of nuclear power technology; applications of the radiation technologies in the fields of agriculture, medicine, industry and basic and applied research. The DAE has been following a 3-stage nuclear power programme covering design, construction and operation of Pressurised Heavy Water Reactors (PHWRs), Fast Breeder Reactors (FBRs), and advanced thorium reactors with associated fuel cycle systems. The Department builds and operates research reactors for production of radioisotopes and carries out programmes on isotope and radiation technology applications in medicine, agriculture and industry. It is engaged in advanced work in hi-tech areas such as accelerators, lasers, supercomputers, advanced materials and instrumentation, and encourages technology transfers to industry and other users. It supports basic research in nuclear energy and related frontier areas of science, and interacts with universities and academic institutions for research and development projects having a bearing on its programmes. DAE encourages international cooperation in related advanced areas of research.

The DAE family comprises of **five Research Centres** : Bhabha Atomic Research Centre (BARC)-Mumbai (Maharashtra), Indira Gandhi Centre for Atomic Research (IGCAR)-Kalpakkam (Tamil Nadu), Centre for Advanced Technology (CAT)-Indore, Variable Energy Cyclotron Centre (VECC)-Kolkata and Atomic Minerals Directorate for Exploration & Research (AMD)-Hyderabad; **three Industrial Organisations** : Heavy Water Board (HWP)-Mumbai, Nuclear Fuel Complex (NFC)-Hyderabad, and Board of Radiation & Isotope Technology (BRIT)-Mumbai; **four Public Sector Undertakings**: Nuclear Power Corporation of India Limited (NPCIL)-Mumbai, Uranium Corporation of India Limited (UCIL)-Jaduguda (Jharkhand), Indian Rare Earth Limited (IRE)-Mumbai, and Electronics Corporation of India Limited (ECIL)-Hyderabad; **four Service Organisations**: Directorate of Purchase & Stores (DPS)-Mumbai, Construction, Services & Estate Management Group (CS&EMG)-Mumbai, General Services Organisation (GSO)-Kalpakkam (Tamil Nadu) and Atomic Energy Education Society (AEES)-Mumbai.

DAE also financially supports seven autonomous national institutes, viz., Tata Institute of Fundamental Research (TIFR)-Mumbai, Tata Memorial Centre (TMC)-Mumbai, Saha Institute of Nuclear Physics (SINP)-Kolkata, Institute of Physics (IOP)-Bhubaneswar, Harish-Chandra Research Institute (HRI)-Allahabad, Institute of Mathematical Sciences (IMSc)-Chennai and Institute for Plasma Research (IPR)-Ahmedabad.

The Board of Research in Nuclear Sciences (BRNS) and the National Board for Higher Mathematics (NBHM) promote research in nuclear and allied fields, and mathematics respectively.

NUCLEAR POWER PROGRAMME

The Nuclear Power Programme of DAE envisages building of pressurised heavy water reactors, fast breeder reactors and thorium based reactors on commercial scale, and also includes technology development relating to operation and maintenance of the reactors, waste management, safety and environment monitoring. The Department has achieved comprehensive capability in the design, construction and operation of pressurised heavy water reactors (PHWRs). The design of 220 MWe PHWR has been standardised and scaled up to 500 MW capacity. The Nuclear Fuel Cycle, which supports the nuclear power programme, and covers mineral exploration, mining, heavy water production and fuel fabrication to fuel reprocessing and waste management, has been fully indigenised.

There are now 14 operating nuclear power reactors (2 boiling water reactors and 12 PHWRs) with a total installed capacity of 2720 MWe. The pressurised heavy water reactor (PHWR) was chosen as the reactor for the first stage of the Indian Nuclear Power Programme, but to gain operational experience, an atomic power station was initially set up at Tarapur (Maharashtra). The station, consisting of two boiling water reactors, has been in operation since 1969. Later, the two pressurised heavy water reactors, built at Rawatbhata (Rajasthan) with Canadian collaboration, commenced commercial production in 1972 and 1980. The Indian capability in the design, construction, and operation of nuclear power plants was fully established when two indigenous PHWRs were commissioned in 1984 and 1986 at Kalpakkam near Chennai (Tamil Nadu).

The research and development and support of the industrial infrastructure in the country further led to the standardisation and improvement in the design of the 220 megawatt(e) PHWR. Based on this design, two reactors were set up at Narora (Uttar Pradesh) which commenced operations in 1989 and 1991.

The indigenous technology of pressurised heavy water reactors reached commercial maturity when two more atomic power reactors, also of 220 megawatt(e) capacity each, were commissioned at Kakrapar (Gujarat), in 1992 and 1995. Later NPCIL set up two state-of-the-art 220-megawatt (e) PHWRs each at Kaiga (Karnataka) and Rawatbhata (Rajasthan), which came online in the years 1999 and 2000.

India's growing experience in nuclear technology has resulted in improving performance of its nuclear power plants. During the calendar year 2000, the gross electricity generation crossed 14,900 million units, and the average capacity factor of the plants touched a new high of 82 per cent.

The technology for setting up of 500 MWe PHWRs has also been developed indigenously. The first 2x500 MWe PHWR units are being set up at Tarapur (TAPP-3&4) which are scheduled for completion by 2005/2006.

The 2000 MWe Atomic Power Station (2x1000 MWe light water reactors)

at Kudankulam, Tamil Nadu is the new project of NPCIL. Construction work for setting up of 2x1000 MWe Russian VVERs units will be taken up shortly.

FAST BREEDER PROGRAMME

The research and development in the field of Fast Breeder Reactor (FBR) undertaken in the early sixties, marked the second stage of the Nuclear Power Plant. The Fast Breeder Test Reactor (FBTR) started in 1972, was made critical in October 1985. Critical components of the reactor were manufactured in India. FBTR is the first fast reactor of its kind in the world that uses plutonium uranium mixed carbide fuel core. The fuel was developed at BARC.

The burn-up of the fuel in small core Mark-1, has crossed 72,000 MWd/t. The reactor has been operated at power levels up to 13 megawatt (th) and has generated 7.4 lakh units of electrical energy. FBTR has attained its mission with the successful completion of physics and engineering experiments which are a stepping stone towards the design and construction of the Prototype Fast Breeder Reactor (PFBR). The 500 MWe PFBR has been designed and the technology development is progressing in collaboration with Indian industry. The pre-project activities for setting up PFBR are proceeding as per schedule. The construction of PFBR is scheduled to start shortly.

THORIUM UTILISATION

Thorium when irradiated, gets converted to nuclear fuel uranium-233. India has vast resource of thorium. The third stage of the Indian Nuclear Power Programme, which envisages use of thorium for power generation, has already begun. The endeavour includes the successful design and operation of 30kW (nominal power) reactor *Kamini* at IGCAR, Kalpakkam being used for irradiation of specimens for experimental/forensic purposes. BARC has been developing the Advanced Heavy Water Reactor (AHWR), which will use both thorium-uranium-233 and thorium-plutonium mixed oxide as fuel. The reactor has moved to the technology development phase. The technologies relating to the production of uranium-233 have been established, along with the facilities for separation of uranium-233 from irradiated fuel of *Kamini*. Thorium fuel bundles have also been successfully used in the PHWRs for flux flattening.

NUCLEAR FUEL CYCLE

India has acquired comprehensive capability in the design and operation of associated plants/facilities covering the entire fuel cycle, starting from mining, milling and concentration of ore, through fabrication of fuel and production of heavy water to reprocessing and management of waste.

The DAE-organisations contributing to the Nuclear Fuel Cycle Programme, are the Atomic Minerals Directorate for Research and Exploration (AMD)-Hyderabad, Uranium Corporation of India Limited (UCIL)-Jaduguda (Jharkand), Indian Rare Earths Limited (IRE)-Mumbai, Heavy Water Board (HWB)-Mumbai, Nuclear Fuel Complex (NFC)-Hyderabad, BARC and IGCAR.

MINERALS EXPLORATION AND MINING

Surveys, prospecting and exploration of uranium, thorium, rare metals and rare earths, titanium and zirconium mineral resources are done by the Atomic Minerals Directorate for Exploration and Research (AMD).

Mining and processing of uranium ores and mineral sands are carried out by the Uranium Corporation of India Limited (UCIL) and the Indian Rare Earths Limited (IRE) respectively. The exploratory efforts of AMD have led to the opening of uranium mines at Jaduguda, Bhatin and Narwapahar in Jharkhand. These mines have been meeting the needs of the Indian Nuclear Power Programme. The discovery of Domiasiat uranium deposit in Meghalaya has been one of the major successes in recent years. AMD has also located sizeable uranium deposits at Wahkyn in Meghalaya, Lambapur-Yellapur and Tummalapalle in Andhra Pradesh, Turamdih, Bagjata, Kanyaluka and Mohuldih in Jharkhand, and Bodal and Jajawal in Madhya Pradesh. Favourable uranium mineralization has been identified at Gogi in Karnataka, Koppunuru and Gandhi in Andhra Pradesh and Rohil in Rajasthan. AMD has also established a number of beach sand mineral deposits of ilmenite, rutile, zircon, monazite, garnet and sillimanite.

UCIL which started operations at Jaduguda, later opened two mines at Bhatin and Narwapahar (all units situated in the Singhbhum (East) district of Jharkhand). The natural uranium from these mines is processed as yellow cake and sent to the Nuclear Fuel Complex (NFC) at Hyderabad for fabrication of fuel for PHWR.

The Indian Rare Earth Limited (IRE) has three mineral sands separation plants at Manavalakurichi (Tamil Nadu), Chavara (Kerala) and OSCOM-Chhatrapur (Orissa). These plants produce industrial minerals, namely ilmenite, rutile, monazite, zircon, sillimanite and garnet. IER exports products to advanced markets of the world. During 1999-2000, the sales turnover of IRE reached Rs 215 crore and foreign exchange earned through exports was Rs 78.25 crore. IRE has bagged an order of US \$ 2.33 million from Egypt, for setting up a mini-pilot plant for monazite processing.

HEAVY WATER PRODUCTION

Heavy water is used in the pressurised heavy water reactors as moderator and coolant. To meet the heavy water requirements of the Indian nuclear power and research reactors, eight heavy water plants have been installed at Manuguru (Andhra Pradesh), Kota (Rajasthan), Hazira and Baroda (both in Gujarat), Thal (Maharashtra), Tuticorin (Tamil Nadu), Talcher (Orissa) and Nangal (Punjab). The heavy water plants at Manuguru and Kota are based on indigenously developed hydrogen sulphide-water exchange process. The other heavy water plants use ammonia-hydrogen exchange process. The plant at Nangal uses electrolysis of water for producing heavy water. Self-sufficiency has been achieved in the production of heavy water. So far 116 tonnes of heavy water has been exported to South Korea.

NUCLEAR FUEL FABRICATION

The technology of conversion of yellow cake into the nuclear grade uranium and the fabrication of fuel elements for power reactors was developed indigenously. The first fuel element was fabricated at Trombay in 1959. For Industrial scale manufacture of nuclear fuel assemblies and zircaloy structural materials for power reactors, the Nuclear Fuel Complex (NFC) was set up at Hyderabad in 1971. NFC also manufactures seamless stainless steel/alloy steel tubes for various engineering industries as well as ultra-pure materials for electronics industries. NFC has successfully built sophisticated machines for in-house use. The Complex is engaged in the development of components for advanced reactors such as PFBR. NFC has commissioned new plants for the manufacture of uranium oxide fuel, uranium fuel assembly, and zircaloy fabrication.

A wide variety of fuels have been developed and fabricated on industrial scale at BARC and NFC. The mixed uranium-plutonium carbide fuel developed at Trombay, for FBTR, has performed well. For fabrication of indigenous MOX fuel assemblies for TAPS, an Advanced Fuel Fabrication Facility (AFFF) was set up at Tarapur.

FUEL REPROCESSING AND WASTE MANAGEMENT

The Indian nuclear energy resource profile requires adoption of a closed cycle that involves reprocessing of spent fuel and recycle of plutonium and uranium-233. India had commenced development of fuel reprocessing technology from the inception of its nuclear programme. Today it has Industrial scale reprocessing plants operating at Trombay, Tarapur and Kalpakkam. At Kalpakkam, a Lead Mini Plant for reprocessing of FBTR fuel is nearing completion and a plant for reprocessing of fast reactor fuel (FRFRF) is under construction. Vitrification, a complex technology has been successfully developed at Trombay. Based on this technology, a Waste Immobilisation Plant (WIP) is operational at Tarapur and two plants are coming up at Trombay and Kalpakkam.

R&D SUPPORT TO NUCLEAR POWER

The programmes relating to Nuclear Power and the Nuclear Fuel Cycle have been built based on the results from the multidisciplinary R&D infrastructure of the Department. The R&D work done in the area of reactor technology has accelerated indigenisation of equipment and components and has led to the development of technologies for operation and maintenance of power reactors, which resulted in improved capacity factors. The technologies include development of automation, monitoring, inspection, and repair systems, equipment and gadgets.

RADIATION TECHNOLOGY APPLICATIONS

DAE's research centres are also engaged in the development of radiation technology applications in industry, medicine, agriculture and research, development of high technology and multidisciplinary research in the frontier areas of sciences. The production of radioisotopes in the country started with

the commissioning of the Apsara reactor in 1956. The production capability was augmented in 1963 when the CIRUS reactor attained its full rated capacity of 40 MWt. There was a major increase in the production capacity when the 100 MWt reactors, Dhruva, attained criticality in 1985. Dhruva one of the large research reactors in the world caters to the production of a wide spectrum of radioisotopes. All these reactors are located in BARC.

Radiation and Isotope technologies from DAE include supply of radiosources and radiography equipment for Industrial radiography; radiotracers based technologies in leak detection, silt movement, and technologies having applications in hydrology; radiation processing radiation polymerization, and soil-salinity. BRIT supplies the radioisotopes and related products to user agencies. Over 700 consignments of iridium-192 sealed sources, totalling over 900 to 1000 Becquerel (over 24,000 curies) are annually supplied by BRIT for radiography examination of industrial components used in various industries/projects in the country. During 2000-01, BRIT supplied radioisotope products valued at Rs 21 crore for use in industry, research, agriculture and health care.

Research Reactors : The research reactor programme of DAE provides R&D support to nuclear power programme; produces radioisotopes, and provides facilities for basic and applied research. A number of research reactors have been designed, built and operated by BARC. These include Apsara (1MW), Cirus (40MW), Zerlina (zero energy), Purnima I-III (Thorium reactors with small cores), Dhruva (100MW) and Kamini (30kW).

Agriculture and Food Preservation : The nuclear agriculture programme of DAE covers development of high yielding crop seeds, fertilizer and pesticide related studies, radiation processing of food items.

The research endeavour at Trombay in the field of crop improvement, has led to the development of 22 high yielding varieties of pulses, oilseeds, rice and jute. One of the major achievements in radiation-induced mutation is the development of a green manure crop—*Sesbania rostrata*. The green manure production technology using this plant is highly cost effective for the small farmers. Several insect pheromones have been synthesized, and techniques for determination of nutrients in soils developed.

Two research and development irradiation facilities, i.e., Food Package Irradiator in Food Technology Division, BARC and another at Defence Laboratory in Jodhpur (Rajasthan) have been licensed for irradiating food items. A Plant for Radiation Processing of Spices and other products, set up by BRIT has been operating at Navi Mumbai since 1 January 2000.

Desalination of Water : BARC has developed desalination technologies based on multi-stage flash (MSF) evaporation, reverse osmosis (RO) and low temperature evaporation. Based on these processes, the Centre has developed desalination plants for rural areas, ship borne plants and for other uses. To demonstrate the viability of coupling nuclear reactor for desalination of sea water, BARC has been setting up a 6300 cubic metre/day combined Multistage

Flash-Reverse Osmosis (MSF-RO) Nuclear Desalination Demonstration Plant at Kalpakkam.

Nuclear Medicine and Healthcare : Radioisotopes and their formulations have wide applications both in diagnosis, therapy and healthcare. The organisations contributing to the nuclear medicine and healthcare programme of DAE are BARC, BRIT, VECC and CAT.

The research reactors at Trombay regularly produce a variety of radioisotopes for use in nuclear medicines. Power reactors too are equipped to produce cobalt-60 radioisotope. BARC supplies reactor produced medical radioisotopes and radionuclides for medical use. The radioisotopes are processed and supplied by BRIT to medical users across the country. The accelerator at VECC is also used for the manufacture of radioisotopes, which are processed for medical applications. BRIT supplies annually over 45,000 consignments of different radiopharmaceuticals, cold kits and radio-immunoassay kits to nearly 120 nuclear medicine centres and 650 RIA laboratories in the country. The radiopharmaceuticals supplied by BRIT enable about eight lakh patient investigations. BRIT also supplies cobalt-60 teletherapy sources to 170 teletherapy units in 62 cities in India and cesium-137 and iridium-192 brachytherapy sources for cancer treatment. CAT at Indore has developed lasers for medical applications. The surgical carbondioxide laser system developed by the Centre is useful for a range of surgical modalities. These systems have been supplied to various hospitals in the country.

Sterilization of Medical Products : In India, radiation has been in use for sterilization of medical products for decades. BRIT's Isomed Plant at Trombay sterilizes about 13,000 cu mt of medical products annually. Over a million radiation sterilised *Dai* (midwifery) kits and delivery packs, for use in rural areas for preventing infection of mothers and helping to minimize infant mortality rate, have been distributed through rural health programmes funded by WHO. Plants similar to Isomed are working at Bangalore, New Delhi and Jodhpur. The blood irradiation equipment (BI 2000) designed and developed by BRIT for use in blood banks and hospitals, is an import substitute.

Radioisotopes in Industry : The radioisotopes produced at Trombay are widely used by Industry for nondestructive testing, fault diagnosis in chemical plant equipment using gamma scanning and many tracer applications. Cobalt-60 and iridium-192 radiography sources are supplied by BRIT to industry. A large number of ROLI radiography equipment designed and developed by BRIT, are in use in Indian industries.

Lasers : The DAE research centres engaged in the programme are CAT and BARC. CAT has developed laser technologies for applications in medicine, industry, and research and development. These include, carbon dioxide lasers for surgery and power cutting of thick steel plates, laser based instruments for medical applications, surgery, endoscopic surgery and treatment of tuberculosis, and 4kW carbon dioxide laser for industrial applications. A 10kW

carbon dioxide laser developed at CAT is already giving 7.5 kW continuous power. Other developments have been the TEA laser giving peak power of more than 1MW at 500 Hz repetition rate for separation of carbon isotopes, several types of Nd: YAG lasers suitable for research & development and medical applications, laser welding station, laser engraver and growth of high quality large size crystals of KDP. KAT's efforts have resulted into the development of nitrogen lasers for diagnosis of certain cancers and treatment of burn wounds.

HIGH TECHNOLOGY DEVELOPMENT

The research and development in the field of high technologies are : Accelerators for nuclear research and industrial applications; lasers for use in surgery and industry; supercomputer systems using parallel processing techniques; Giant Metrewave Radio Telescope (GMRT); advanced remote handling and robotic devices and servo-manipulators for applications in industry; scintigraphic techniques for organ imaging; sophisticated facilities for analysis and characterisation of ultra-pure materials; various electronic systems and equipment, and materials.

Accelerators : DAE has established capability in the design, construction and operation of particle accelerators used in nuclear research, isotope production and in radiation processing. The Variable Energy Cyclotron (VEC) at Kolkata, 14MV Pelletron Accelerator at Mumbai, and Synchrotron Radiation Sources (SRS) Indus-I at Indore, Folded Tandem Ion Accelerator (FOTIA) at Trombay, are the major accelerator facilities in the country. VEC provides protons, deuterons and alpha particle beams for research in nuclear fields and production of gallium radioisotope. Currently, the Centre is constructing a K500 Superconducting Cyclotron.

CAT is constructing Synchrotron Radiation Sources (SRS) for basic and applied research. Indus-1, that comprises three accelerators—a 20 MeV microtron, a 450 MeV booster synchrotron and a 450 MeV storage ring, is operating routinely. Current was stored in Indus-1 for the first time in April 1999. Construction of Indus-2 is in progress. BARC commissioned FOTIA in April 2000 at Trombay for providing light and heavy ion beams for use in basic and applied research in nuclear, atomic and material sciences.

The BARC-TIFR Pelletron Accelerator Facility at Mumbai, has made an impact internationally in the field of nuclear research. At Brookhaven National Laboratory, USA, a particle detector designed and developed by BARC, has been commissioned for conducting frontline nuclear physics experiments.

Cryogenics : CAT and VECC have successfully developed expertise in cryogenics. The closed cycle cryorefrigerator which can produce temperatures of the order of 6.5 Kelvin, is under development at CAT. Also, the two stage and single stage cryocoolers developed here are undergoing trials.

ELECTRONICS, INSTRUMENTATION AND COMPUTERS

The DAE research centres have been engaged in the development of sophisticated electronic systems, instruments and components for various applications.

In the fields of electronics, the Electronics Corporation of India Limited (ECIL), Hyderabad is a premier organisation in the country. ECIL pioneered the television revolution during 70's and 80's by bringing out indigenous black & white and colour television sets and also rural rebroadcast systems covering the entire nation. ECIL's software expertise has provided automation in the banking sector, control room and dial-100 automation for the police, message switching systems for defence and telecom sectors, management information systems for the ports, municipal corporations and market yards. ECIL has substantially contributed to the telecommunication by providing countrywide SPC telex networks, message switching networks and maintenance systems for telephone exchanges. ECIL has been providing to the armed forces technology solutions, in the areas of command, control, communications, computers & information/intelligence systems. Nuclear and thermal power plants, steel plants and other related process Industries are equipped with control systems provided by ECIL.

Bhabha Atomic Research Centre (BARC) contributed significantly for the nuclear power plants being set up by Nuclear Power Corporation of India Limited (NPCIL). The systems developed by BARC include programmable digital comparator system, dual processor hot stand-by process control system, supervisory control and data acquisition system, etc. BARC has handed over three channel inspection systems (BARCIS) to NPCIL for their field use.

The other developments at BARC include a microprocessor based traction control system for retrofitting the WAG-5 series locomotives of the Indian Railways; setting up a Femto-Second Spectrometer, Diamond Film Deposition techniques, and fabrication of a number of silicon based detectors. PC based CAMAC Accelerator Control System, image analysis system for personnel monitoring, and multimedia database to store and retrieve facial image, signature, finger print and voice clip along with personal details for security applications have been some of the other notable developments at Trombay. Under the Physical Protection System Development Programme, BARC developed a CCTV System with digital video storage facility, a micro-controller based distress alarm system, and an access control system under real time operating system environment, and built an Inductively Coupled Plasma Source Mass Spectrometer (ICP-MS). The instrumented pipe inspection gauge (IPIG) developed at BARC has been a success. Plans have been drawn up for building pipe inspection gauges for larger diameter pipelines. Under the IAEA programme, BARC exported Anugami-S interface cards for gamma camera.

IGCAR has also commissioned a Distributed Data Acquisition & Analysis System. The centre has also developed Application Specific Integrated Circuits (ASICs) and commissioned SCADA - developed in-house for Heavy Water Plant at Manuguru Plant, Information System for RAPS-II and Data Logging and Display System for Heavy Water Plant at Tuticorin.

At CAT, the technologies related to the preparation of multilayers, used as soft X-ray reflectors, were developed.

Anupam Supercomputer developed by BARC is being continuously upgraded, the latest being an 84-node system based on Pentium-III, which has demonstrated a sustained speed of 15 giga flops. It is expected that a sustained speed of 50 giga flops will be reached by the end of the Ninth Plan. Various versions of Anupam have been installed in the units of DAE as well as the organisations.

ROBOTICS AND AUTOMATION

Robotics is one of the major thrust area of R&D programme both at BARC and IGCAR. The Bilateral Master Slave Servo Manipulators, manufactured under collaboration between BARC and HMT, Bangalore, have undergone field trials. A five-degree-of-freedom Robot for deployment in radioactive chemical laboratories, a six-degree-of-freedom Robot and a mobile Robot have been developed at Trombay. At IGCAR, for automation of nondestructive evaluation, various devices have been developed. These include a Mobile Scanner (MOBSCAN), a Remotely Operated Power Manipulator (ROPMAN) and a Robot for capping and decapping bottles.

POKHRAN TESTS

On 18 May 1974, India had conducted a peaceful underground nuclear experiment at Pokhran in Rajasthan desert. India successfully conducted five nuclear tests on 11 and 13 May 1998 at Pokhran. These included a thermonuclear device, a fission device and three sub-kiloton nuclear devices. Analysis of the measurements carried out at the time of the tests confirmed the initially declared yields and other design parameters for all the devices.

TECHNOLOGY SPIN-OFFS

The multidisciplinary research carried out in DAE's research centres, has helped not only in achieving self-reliance in the Nuclear Power Programme and associated Nuclear Fuel Cycle but also generated several technologies and products that have benefited Indian industry. These include material and alloys, radioisotope based tools and techniques, tissue culture technology, lasers for surgery and industrial applications, electronic instruments and devices. IIT, Kanpur and DAE have tied up to jointly select students seeking admission to the postgraduate course in nuclear science and technology.

RESEARCH FUNDING

DAE, through the Board of Research and Nuclear Sciences (BRNS) and the National Board of Higher Mathematics (NBHM) both at Mumbai, promotes activities including research in nuclear sciences and mathematics respectively, at universities and other academic institutions. NBHM also participates in the International Mathematical Olympiad.

BRNS has been sponsoring research in universities and institutes for more than four decades. BRNS has sponsored many research projects in the

national laboratories as well. For research collaborations, the research centres of DAE have signed MoUs with national institutes, universities and others.

During the year 2000-01, BRNS extended financial assistance to 54 new projects and renewed 134 ongoing projects. An MoU was signed by BRNS with Pune University for setting up a 7 MeV LINAC facility for studies in fast kinetics. Another MoU was signed with the Rajasthan Agricultural University, Bikaner, for establishing a Radiotracer Laboratory and Multi-locational Testing and Seed Production of Crop Varieties developed at Trombay. BRNS also offers Young Scientist Project Awards, Dr K. S. Krishnan Research Associateship and Homi Bhabha Chairs for distinguished scientists.

BARC is funding the research work being done by IIT-Bombay for Advanced Heavy Water Reactor (AHWR) and IGCAR is funding IIT-Madras for Prototype Fast Breeder Reactor (PFBR). In many cases, DAE has set up major centres in the academic institutions.

HUMAN RESOURCE DEVELOPMENT

To nurture nuclear technology, the endeavour of the Department covers training programme for its scientists/engineers; programme under the Inter-University Consortium for utilisation of DAE research facilities; enrichment of higher science education through interaction of its experts with university system, and training facilities/fellowships extended to countries through IAEA or under the bilateral agreements.

Training courses, seminars, symposia and workshops are regularly conducted by the DAE units. The Training School at Trombay and its affiliates at CAT, Indore; NFC, Hyderabad and NPCIL, conduct specialised training in multidisciplinary nuclear and allied technologies. The DAE and the UGC had signed a MoU in 1989 for setting up of Inter-University Consortium of DAE Facilities (IUC-DAEF) at Indore for making DAE's research facilities such as research reactors at Trombay, Cyclotron at Kolkata, etc., available to researchers from universities. The Consortium functions under the control of the UGC. DAE has strengthened the synergy between the national laboratory and the university systems and instituted many mechanisms to do this. These include grant-in-aid institutes of national eminence, engaged in basic and applied research ranging from natural sciences, mathematics and astronomy to fusion research; funding of research and development in universities and institutes in the fields of relevance to DAE's programmes, etc.

DAE's HRD programmes have been benefiting a number of countries in the areas of nuclear agriculture, nuclear medicine, radioisotope technology and specialised services. DAE has been pursuing collaborative research programmes under Indo-German Bilateral Agreement and other schemes. Training facilities, fellowships, scientific visits, etc., and services of scientists for expert assignments are offered both through the IAEA and to the countries with which India has entered into bilateral agreements for cooperation in the field of peaceful uses of atomic energy.

INTERNATIONAL RELATIONS

India has been a member of the Board of Governors of the IAEA since its inception. In September 1994 the country was elected as the Chairman of the Board of Governors of IAEA for one year. DAE is an active member of the World Association of Nuclear Operators and participates in peer reviews in a number of countries including USA, Japan and South Korea. IGCAR has also played an active role in the International Working Group on Fast Reactors.

INDIAN SPACE PROGRAMME

The Indian space programme was formally organised in 1972 with the setting up of Space Commission and the Department of Space (DOS) to promote development and application of space technology, specifically, in the areas of telecommunication, television broadcasting, meteorology, resources survey and management. Development of satellites, launch vehicles and associated ground systems is integral to the space programme objective. The space programme is executed through, mainly, the Indian Space Research Organisation (ISRO), National Remote Sensing Agency and Physical Research Laboratory. Over the last two and a half decades, the Indian space programme has made an impressive progress through a well integrated, self-reliant programme.

INSAT SYSTEM

The Indian National Satellite System (INSAT) is a multi-purpose satellite system for telecommunications, meteorological observations and data relay, television broadcasting and radio and television programme distribution. It is a joint venture of Department of Space (DOS), Department of Telecommunications (DOT), India Meteorological Department (IMD), All India Radio (AIR) and Doordarshan. DOS has direct responsibility for establishment and operation of INSAT space segment.

INSAT system was established in 1983 with the commissioning of INSAT-1B. At present the system is served by ISRO-built satellites, INSAT-2C, INSAT-2E and INSAT-3B, and INSAT-2DT procured from ARABSAT in October 1997.

INSAT-2C in addition to carrying communication transponders in INSAT-2A and 2B, incorporate Ku-band transponders for business communication, extended coverage C-band transponders to enable TV programme outreach beyond Indian boundaries catering to the population from South East Asia to the Middle East and transponders for mobile satellite services. It does not carry the meteorological payload. INSAT-2C and INSAT-2B are co-located in the geostationary orbit thus enabling efficient use of allocated orbital slots. INSAT-2E incorporates an improved meteorological payload besides the communication payloads as in INSAT-2C. DOS has leased to INTELSAT organisation eleven 36 MHz equivalent units of C-band capacity on board INSAT-2E. Five satellites, INSAT-3A to INSAT-3E are planned to be launched in 1999-2002 time frame. INSAT-3B was launched in March 2000

carries 12 extended C-band transponders, 3 Ku-band transponders and CxS Mobile Satellite Service transponders.

There are more than 564 telecommunication terminals of various types, including 50 terminals for rural telegraphy in the north-eastern part of the country, operating in the INSAT network providing about 5,600 two-way speech circuits over 135 routes. More than 800 micro-terminals have been set up under National Informatic Centres to provide nationwide data communication links between district and state capitals. Captive satellite-based networks such as for National Thermal Power Corporation (NTPC), Gas Authority of India Limited (GAIL), Nuclear Power Corporation (NPC), Indian Telephone Industries (ITI), Oil and Natural Gas Corporation (ONGC), National Fertilizers Limited (NFL) and Coal India Limited (CIL) are operating through INSAT. The Press Trust of India (PTI) has implemented a system to provide its news and information services at high speed and increased volume by utilising broadcast facilities of INSAT satellite. With the availability of INSAT-2C, INSAT-2E and INSAT-3B, business communication in Ku-band and mobile satellite service are being tried out.

The meteorological data gathering with VHRR instrument on board INSAT and its dissemination, along with its collection of remote area meteorological data from unattended platforms, has vastly improved weather forecasting in the country. Satellite based locale-specific disaster warning system has been established with over a hundred disaster warning receivers installed in the cyclone-prone coastal areas.

INSAT has enabled a vast expansion in the television service with over 1,079 TV transmitters linked through INSAT. The INSAT television network provides access to over 85 per cent of India's population. INSAT-2C enables Indian television outreach beyond Indian boundaries catering to the population from South East Asia to Middle East. Educational television service through INSAT has been introduced both at university level in the national network and at primary school level in several states including Andhra Pradesh, Orissa, Maharashtra, Gujarat and Uttar Pradesh. A channel on the INSAT has been dedicated for development of education and training. A pilot project for demonstration of satellite-based developmental communication and training has been taken up in Jhabua district of Madhya Pradesh. The project is being expanded to 1,000 more villages including the adjoining districts.

INDIAN REMOTE SENSING SATELLITE SYSTEM

The Indian Remote Sensing (IRS) satellites are the mainstay of National Natural Resources Management System (NNRMS), for which Department of Space (DOS) is the nodal agency, providing operational remote sensing data services. The IRS system was operationalised with the commissioning of IRS-1A in March 1988. An identical satellite, IRS-1B was launched in August 1991 to continue the services from IRS. The IRS system has been further enhanced

by IRS-1C, IRS-P3, IRS-1D and IRS-P4, the last three having been launched by India's own launch vehicle, PSLV, IRS-1C, launched on 28 December 1995 by a Russian rocket and IRS-1D launched by PSLV on 29 September 1997, have enhanced capabilities in terms of spatial resolution, additional spectral bands, stereoscopic imaging, wide field coverage and a more frequent revisit capability than its predecessors. They carry tape-recorders on board for recording the data when data is not being transmitted in real time. IRS-P3 was launched by the third developmental flight of PSLV (PSLV-D3) on 21 March 1996. It has a Modular Opto-electronic Scanner (MOS), designed and developed by DLR, Germany and a Wide Field Sensor (WiFS) similar to that of IRS-1C but with an additional Short Wave IR (SWIR) band for the study of vegetation dynamics besides an X-ray Astronomy Payload (XAP) to study the time variability and spectral characteristic of cosmic X-ray sources and detection of transient X-ray sources. Another satellite IRS-P4 (OCEANSAT) was launched by PSLV on 26 May 1999. Two more satellites, IRS-P5 and IRS-P6 for cartography and agricultural resources survey respectively are planned for launch in the next three years.

Remote sensing applications in the country, under the umbrella of NNRMS, now cover diverse fields such as crop acreage and yield estimation, drought warning and assessment, flood control and damage assessment, land use/land cover information, agroclimatic planning, wasteland management, water resources management, under-ground water exploration, prediction of snow-melt run-off, management of watersheds and command areas, fisheries development, urban development, mineral prospecting, forest resources survey, etc. Active involvement of the user ministries/departments has ensured an effective harnessing of the potential of space-based remote sensing. An important application of IRS data is in the Integrated Mission for Sustainable Development (IMSD) initiated in 1992. IMSD, under which 175 districts have been identified, aims at generating locale-specific action plans for sustainable development. IRS-P4 has opened up new vistas of applications related ocean resources.

LAUNCH VEHICLE TECHNOLOGY

India started launch vehicle development in a modest way through SLV-3 which could put 40 kg class satellite into near earth orbit. The capability was further built up through Augmented Satellite Launch Vehicle, ASLV, which had two successful flights - in May 1992 and May 1994 - when it injected the SROSS (Stretched Rohini Satellite Series) satellites, carrying a gamma ray burst experiment and retarding potential analyser into low earth orbit. The second satellite, SROSS-C2, is still sending valuable scientific data.

Today, India has realised the operational launch vehicle, PSLV, capable of launching 1,200 kg IRS class of remote sensing satellites into polar sunsynchronous orbit. The first successful developmental launch (PSLV-D2) took place on 15 October 1994 when it placed the IRS-P2 remote sensing satellite into the intended polar orbit. The second and final developmental test (PSLV-D3) was conducted on 21 March 1996 when IRS-P3 was placed

into the intended polar orbit. The first operational flight, PSLV-C1 placed IRS-1D in orbit. PSLV-C2 placed Indian Remote Sensing Satellite, IRS-P4 (OCEANSAT), a Korean Satellite KITSAT-3 and a German satellite, TUBSAT into 727 km Polar sunsynchronous orbit on 26 May 1999. PSLV-C3 is planned in 2000-2001 to launch IRS-P5 (cartosat) and a Belgium satellite PROBA. The development of Geosynchronous Satellite Launch Vehicle (GSLV), incorporating a cryogenic stage, which will be capable of placing 2,000 kg INSAT class of satellites in geosynchronous transfer orbit, is making rapid progress and its first developmental test is expected by 2001.

SPACE SCIENCE

Space science research is mainly carried out in the areas of astronomy and astrophysics, planetary atmosphere and aeronomy, earth sciences and solar system studies and theoretical physics. The activities are carried out mainly at Physical Research Laboratory, Ahmedabad and, to a lesser extent, at Space Physics Laboratory, Thiruvananthapuram, Space Applications Centre, Ahmedabad and ISRO Satellite Centre, Bangalore. A programme on geosphere-biosphere research using balloon, rocket and satellite-based experiments to study the effect of anthropogenic activities on the earth's environment is continuing. A National Mesosphere-stratosphere Radar Facility (NMRF) has been established at Gadanki near Thirupati for study of atmospheric dynamics, atmospheric turbulence and diffusion measurement, study of atmospheric pollutant dispersion, detection of wind shear, cloud physics, etc. The gamma ray burst experiment carried on board SROSS satellites and X-ray Payload on IRS-P3 satellite have helped in furthering research in high energy astronomy.

SPACE-INDUSTRY COOPERATION

Under space-industry cooperation, 236 advanced technologies developed by ISRO have been transferred to industry for commercial use. Technology consultancy is also provided to industry. ISRO also utilises the Indian industry capability for the space programme. Certain premier industries in the field of aeronautics, communications and engineering have now set up their own specialised departments to deal with space hardware. In order to market the variety of hardware and services that are available through ISRO, Antrix Corporation Limited, a government-owned company, has been established. Antrix has already signed an important contract with a leading US company for receiving and marketing data from Indian remote sensing satellites globally. Many ground stations all over the world have already been augmented with Indian supplied hardware to receive data from IRS satellites. Several other contracts have also been executed by Antrix.

INTERFACE WITH ACADEMIC AND R & D INSTITUTIONS

ISRO has an active programme to interact with academic and research institutions all over the country for the benefit of space programme. Under the Sponsored Research (RESPOND) scheme, several research projects relevant

to the space programme are being funded by the Department of Space in academic and R and D institutions. Space Technology Cells have been established at reputed institutions.

INTERNATIONAL COOPERATION

International cooperation is an important element of the Indian space programme. The establishment of Equatorial Rocket Launching Station, conduct of SITE and STEP, launches of *Aryabhata*, Bhaskara I and II, IRS-1A and 1B and APPLE, manned space mission, development of Vikas engine, etc., involved cooperation with several countries including USA, the former Soviet Union, France, Germany, European Space Agency, etc. India has cooperative agreements with several countries like China, France, Germany, Canada, Hungary, Mauritius, Norway, Russia, Sweden, Syria, the Netherlands and Ukraine and space agencies such as the European Space Agency. India shares its own experience with other developing countries by training their personnel under a programme called SHARES (sharing of experience in space).

India has actively participated in international campaigns related to atmospheric research. India has been actively participating in the UN Committee on Peaceful Uses of Outer Space and has set up two Local User Terminals (LUT) and Mission Control Centre (MCC) as part of the COSPAS-SARSAT network, under the International Satellite aided search and rescue programme. The UN Asia-Pacific Regional Centre for Space Education set up in India in November 1995, is a recognition for India's role in sharing its experience in the development and application of space technology for social benefits.

SPACE CENTRES AND UNITS

The headquarters of the Department of Space (DOS) and Indian Space Research Organisation (ISRO) are located at Bangalore. Research and development activities under the space programme are carried out in the following centres/units of DOS/ISRO: (i) Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram, is the lead centre for launch vehicle development. It pioneers in rocket research planning and execution of launch vehicle development projects; (ii) ISRO Satellite Centre (ISAC), Bangalore, is responsible for the design, fabrication, testing and management of satellites for scientific, technological and application missions; (iii) Space Applications Centre (SAC), Ahmedabad, is engaged in design and development of payload systems for satellites and carry out application demonstration of space technology; (iv) SHAR Centre, Sriharikota, located on the east coast of Andhra Pradesh, is the main launch centre of ISRO. Propellant processing and ground testing of solid fuelled rocket stages are also carried out in this centre; (v) Liquid Propulsion Systems Centre (LPSC) is the centre for development of liquid propulsion systems both for launch vehicles and satellites. It has facilities located at Thiruvananthapuram, Bangalore and Mahendragiri (Tamil Nadu); (vi) Development and Educational Communication Unit (DECU), Ahmedabad,

is involved in conception, definition, planning and socio-economic evaluation of space application programmes; (vii) ISRO Telemetry, Tracking and Command Network (ISTRAC) with its headquarters and Spacecraft Control Centre at Bangalore and a network of ground stations at Sriharikota, Thiruvananthapuram, Bangalore, Lucknow, Port Blair and Mauritius, provides telemetry, tracking and command (TTC) support for the launch vehicle and satellite missions of ISRO and also for other space agencies; (viii) Master Control Facility (MCF) at Hassan in Karnataka is responsible for all post launch operations of INSAT satellite including orbital manoeuvres, station keeping and in-orbit operations on the spacecraft; (ix) ISRO Inertial Systems Unit (IISU), Thiruvananthapuram, carries out development of inertial systems for both satellites and launch vehicles; (x) Physical Research Laboratory (PRL), Ahmedabad, under DOS is the premier national centre for research in space and allied sciences; (xi) National Remote Sensing Agency (NRSA), Hyderabad under DOS is responsible for reception, processing and dissemination of data from remote sensing satellites and also carry out aerial surveys; and (xii) National Mesosphere, Stratosphere, Troposphere Reader Facility (NMRF) at Gadanki, near Thirupathi is available to scientists for carrying out atmospheric research.

A North-Eastern Space Application Centre (NE-SAC) has been established at Shillong to promote space application in the region.

INFORMATION TECHNOLOGY

The advancement in information technology (IT) has a profound impact in country's economy, thus the quality of human life. The convergence of computer, communications and content creates tremendous opportunities as well as challenges. The IT revolution has opened up new possibilities of economic and social transformations from which both developed and developing countries can potentially benefit.

The software industry has emerged as one of the fastest growing sectors in the economy with a CAGR exceeding 50 per cent over the last five years and with a turnover of US\$ 8.3 billion and exports of US\$ 6.2 billion during 2000-01. The Government has targeted an export of US \$ 50 billion by the year 2008 for the Indian software industry.

The IT software and services industry in India accounts for almost 2 per cent of India's GDP. As per the McKinsey Report, the Indian software industry will account for 7.7 per cent of India's GDP by 2008. Indian IT software and services exports accounted for 14 per cent of India's total exports of US\$ 44 billion during 2000-01. It is expected that by the year 2008, Indian IT software and services exports will account for 35 per cent of India's total exports.

The Indian software professionals have already created their brand image in the global market. Today, more than 260 of the Fortune 1,000 companies, i.e., almost one out of every four global giants, outsource their software requirements to India. India's software industry has achieved a remarkable distinction for providing excellent quality. A large number of

Indian software companies have acquired international quality certification. Out of top 400 companies, more than 250 have already acquired ISO 9000 certification. More importantly, 27 Indian companies have acquired SEI CMM (Software Engineering Institute Capability Maturity Model) Level 5 certification (the highest quality standard for software practices). Majority of the multinational companies operating in the area of Information Technology have either Software Development Centre or Research Development Centre in India.

India's natural resource in today's knowledge economy is its abundant technically skilled manpower. India has the second largest pool of English-speaking scientific professionals in the world today, after the US. As on 31 December 2000, the software industry in India employed about 4,10,000 professionals.

The Indian software industry has not only been growing exponentially but has been moving up the value chain as well. The industry has evolved from staffing to software development to integration and IT business consulting. India's success in the software arena can largely be attributed to the industry's knowledge and expertise of cutting edge technologies. Indian software companies have constantly striven to stay abreast of global technology trends by embracing technologies that are gaining pre-eminence globally. The Indian IT Enabled Services sector has emerged as a key driver of growth for the Indian IT industry. The IT Enabled industry currently employs 70,000 people and accounts for 10.6 per cent of the total IT software and services industry revenues.

Out of the total software exports of Rs 28,350 crore during 2000-01, almost 62 per cent was to North America (USA and Canada); 24 per cent to Europe; 4 per cent to Japan; and 10 per cent to rest of the world. With the backdrop of slowdown in the US economy, Indian companies are actively expanding into newer markets, increasing their presence in Europe and setting up alliances in Asia. However, in the last few months, many US companies have shown increased interest in the Indian software industry. Also, companies in Europe and Japan are increasing their outsourcing to India.

The off-shore services strengthened its dominance in the software exports sector. The offshore services increased to about 44 per cent of total exports, whereas on-site services contributed to about 56 per cent of export revenues. This was possible due to high speed (64 Kbps, 2 Mbps) data communication links provided to the industry by STPI and VSNL. As on 31 March 2001, there are more than 1,400 leased lines from Indian software companies providing 64 Kbps and higher speed data communication links for offshore software development.

The Government is providing critical inputs and removing the bottlenecks in the path of software development. Various measures are being undertaken for creation of wealth and economic growth leading to better employment opportunities within the country. The Government has also recommended that each Ministry must allocate 2-3 per cent of its budget on IT promotion. This is a step for development of domestic software industry and move towards

integrating IT with Government functioning and e-governance. It would result in delivering better services to the citizens by improving citizen-Government interface and transparent working.

ELECTRONICS PRODUCTION

The Indian electronics industry production is estimated at Rs 68,450 crore during 2000-01, as compared to Rs 52,450 crore during 1999-2000, and thus registering a growth of 31 per cent. Today, all the renowned global brands have either established production facilities in the country or are present in the market through technical/financial collaborations, thus giving consumer a wider choice in terms of product features, technology quality and competitive prices. In export as well as domestic sector, computer software remains a thrust area and the fastest growing sector. Software exports have jumped to Rs 28,350 crore during 2000-01 from Rs 17,150 crore during 1999-2000, a growth rate of 65 per cent. Domestic software industry has gone up to Rs 9,400 crore during 2000-01 from Rs 7,200 crore during 1999-2000. The electronics production during the last five years is given in table 7.1.

MAJOR INITIATIVES IN INFORMATION TECHNOLOGY SECTOR

Information Technology Act, 2000: In order to facilitate growth of e-commerce, electronic communication through Internet and accelerate induction of IT in critical sectors of the economy, an 'Information Technology (IT) Act, 2000' has been approved by the Government. It provides legal framework to facilitate electronics commerce and electronics transaction and aims at recognising electronic contracts, prevention of computer crimes, electronic filing/documentation, digital signature, etc. Rules for implementing the Act have been notified and the Act brought into force on 17 October 2000. The Controller of Certifying Authority has been appointed.

The Semiconductor Integrated Circuits Layout-Design Act, 2000: The Government has enacted the Semiconductor Integrated Circuits Layout-Design Act, 2000 to provide for protection of Semiconductor Integrated Circuits Layout-Design and for matters connected therewith incidental thereto. The draft rules for implementation have been put on the Ministry of Information Technology web-page.

Community Information Centres: The Ministry of Information Technology has taken up a project to set-up of Community Information Centres (CICs) in 486 blocks in the North-East and Sikkim for the socio-economic development of the region at an estimated cost of Rs 220 crore to provide connectivity at the block level and to be completed within two years. VSATs are being used to provide Internet connectivity under the scheme. A pilot project in 30 blocks has been completed.

Through this scheme, the Government has a goal to reach out to 95 per cent of the people who are outside the digital world, particularly in the application of IT in the healthcare, education, e-governance, data transmission, documentation, connectivity for management of national calamities, disaster management, etc. These CICs can help in combating escalating crisis in health, energy, water, education and literacy as well as poverty alleviation.

NATIONAL CONFERENCE OF IT MINISTERS

The Ministry of Information Technology organised the first National Conference of IT Ministers of various States for arriving at Common Action Plan to promote IT on 15 July 2000 in New Delhi. The Prime Minister inaugurated the conference, in which 14 Chief Ministers also participated. The following decisions were announced in the conference : (i) Full deregulation of National Long Distance Operations (NLDO); (ii) Complete demonopolisation of undersea optical fiber connectivity for ISPs; and (iii) Setting up of a Task Force on human resource development in IT.

These decision will strengthen the country's telecom infrastructure and infrastructure for IT education. After the deliberations, the conference adopted a consensus Action Plan to promote IT in India.

INFORMATION TECHNOLOGY FOR THE MASSES

The Ministry of Information Technology had set up a Working Group on Information Technology for the Masses. The Working Group in its report has set a target of 100 million Internet connections by the year 2008 and one million Internet enabled IT Kiosks/Cyber Cafes to be established the country. The main recommendations of the Working Group are as below: (i) To establish IT infrastructure in 60,000 schools over a period of five years; (ii) Web enabled citizen oriented Government services; (iii) No licences and controls for setting up IT infrastructure and services; (iv) Promote development of Indian Language content over Internet; (v) To launch mass awareness campaign through IT *Yatras* and other programme; (vi) To set up a IT Mission for five years to carry out the programme recommended in the report and follow up other recommendations of the report; (vii) Compulsory IT literacy for Government recruitment; (viii) Earmarking up to five per cent budget for IT induction in Government; (ix) State Government Portals to help rural artisans and entrepreneurs; (x) Internet Portal for one point Government information and services; (xi) All Government information to be on Internet; (xii) All Government payment on internet; and (xiii) Results of Public examinations to be made available on Internet.

TELECOMMUNICATIONS

Internet Service Providers (ISP) have been permitted to set up international gateways and Submarine Landing Station in the country. ISPs have also been allowed to hire bandwidth on foreign satellites. This will enable increased availability of Internet bandwidth and facilitate Internet expansion in the country. National Long Distance and ISD Telecommunication Service have been opened up. Wiring the country by Fibre Optic Cable and VSNL monopoly is to end in March 2002.

CENTRE FOR e-GOVERNANCE

World economies have recognised Information Technology (IT) as an effective tool in catalysing the economic activity, in efficient governance and in developing human resource. As part of the increased thrust on e-governance,

MIT on 15 August 2000 set up a Centre for e-Governance (CeG) in its premises at Electronics Niketan, New Delhi. The Centre showcases several e-governance applications and solutions that have been implemented besides offering such other services like technical consultation, proof of concept and technical presentations.

The Centre would draw upon leading companies, technical institutes and business partners in India and abroad and help initiate projects to address specific needs. It would strive to establish strong links with similar institutes worldwide to enrich the repository of best practices through continuous interaction and participation. The agencies showcasing their applications at the Centre are C-DAC, CMC, NIC, Microsoft, Oracle and IQ Virtuals. CISCO would set up a Centre of Asian Pre-Eminence for promoting e-Governance with an investment of US\$ 2 million.

MEDIA LAB ASIA

A proposal to set up Media lab Asia in collaboration with Masschusetts Institute of Technology, USA has been approved. It will focus on developing technologies of the future in the field of IT such as Internet and Multimedia and aim at generating ideas and entrepreneurship of international calibre; focus on use of futuristic technologies for solving problems of Indian context; and create ambience for students, faculty, entrepreneurs, industry and users to work together in a creative environment.

TECHNOLOGY DEVELOPMENT FOR INDIAN LANGUAGES

A number of initiatives have been taken under the Technology Development for Indian Languages (TDIL) programme of the MIT for development of Indian Language processing tools, human interface system, transport support system, corpora and lexical resources. To promote information processing in Indian languages a project has been taken up at 13 educational and R&D institutions in the country. The objective is to increase IT penetration in the society, improve the quality of life of people by enabling use of IT through Indian Languages, development of new products and services in Indian Languages, promote content creation (on web sites) efforts in Indian Languages for better dissemination of information among the Indian masses apart from facilitating research in technology intensive areas of Language Engineering.

SOFTWARE TECHNOLOGY PARKS OF INDIA

Software Technology Parks of India (STPI) have a nation-wide presence in 18 centres at Pune, Bangalore, Bhubanweshwar, Hyderabad, Noida, Gandhinagar, Thiruvananthapuram, Mohali (Chandigarh), Jaipur, Kolkata, Mumbai, Chennai, Mysore, Coimbatore, Vizag, Guwahati, Indore and Srinagar. These centres provide "Single-window Interface" and High Speed Data Communication (HSDC) facility to the software exporters. STPI has also set up a Business Support Centre in Silicon Valley (USA). The export revenue of the STP units is showing consistent growth of more than 100 per cent every year. These units have exported over Rs 20,000 crore worth of software during the year 2000-01. There are more than 6,400 units registered with STPI.

NATIONAL INFORMATICS CENTRE

National Informatics Centre (NIC) provides computer support to Central Government Departments, State Government Departments, District Administrations (540 districts) and new districts being created by the State Governments. NIC has set up a satellite based computer communication network for providing E-MAIL, INTERNET, File Transfer, access to National and International data-bases (including bio-medical, land records, etc.), Electronic Data Interchange (EDI), Videoconferencing facility, etc. NIC has set up a local area networks in Central Government Departments and State Government Secretariats. NIC has been training the government employees on a regular basis to enable them use computerised MIS and databases. Training is provided up to district level. NIC has computerised Supreme Court, 18 High Courts and 430 lower courts in the country to streamline functioning and providing transparency to the litigants and legal databases.

NIC has been actively involved in ensuring presence of various constituents of Government of India on the World-wide Web. More than 270 web site of Central Ministries/Departmenrs, organisations and State Governments/UT Administrations have been developed and/or hosted by NIC on its Web Servers. NIC recently published on its web sites results of various examinations.

TABLE 7.1 : ELECTRONICS PRODUCTION

(Rs in crore)

Item	1996-97	1997-98	1998-99	1999-2000	2000-01
Consumer Electronics	6,500	7,600	9,200	11,200	11,550
Industrial Electronics	3,100	3,150	3,300	3,750	4,000
Computers	2,740	2,800	2,300	2,500	3,400
Communications and Broadcast Equipment	3,000	3,250	4,400	4,000	4,500
Strategic Electronics	1,300	900	1,300	1,450	1,750
Components	3,700	4,400	4,750	5,200	5,500
Sub-Total	20,340	22,100	25,250	28,100	30,700
Software for Exports	3,700	6,500	10,940	17,150	28,350
Domestic Software	2,600	3,470	4,950	7,200	9,400
Total	26,640	32,070	41,140	52,450	68,450

OCEAN DEVELOPMENT

The Department of Ocean Development (DOD) was created in July 1981 to function as a nodal Department for organising, coordinating and promoting ocean development activities in the country, in line with the Ocean Policy Statement.

The major objectives of the Department are: (1) Development of technologies relating to seabed mining, extractive metallurgy and ocean energy; (2) Contribution towards front ranking research in polar sciences; (3) Exploration of marine resources and their co-relation with oceanographic parameters, studies to evolve exploration parameters and strategies; (4) Development of technologies and infrastructure for exploration and sustainable and rational utilisation of marine living and non-living resources; (5) Developmental activities related to integrated coastal and marine area management, coastal community development, ocean information services, etc., with direct application to the welfare of the society; and (6) Basic research in Ocean Science and Technology, Human Resource Development, creation of Centres of Excellence in academic institutions and public awareness on the potential and uses of ocean.

The programmes and activities undertaken by the Department are of sustainable and environment friendly exploration and utilisation of marine living and non-living resources for the socio-economic benefit of the country. These objectives are achieved through the programmes of the Department which have been reoriented and revamped during the Ninth Five Year Plan period.

ANTARCTIC EXPEDITION AND POLAR SCIENCE

India entered into the realm of polar science in 1981 with the launch of the first scientific expedition. So far 20 expeditions on an annual basis have been successfully launched to Antarctica. In addition, an expedition to the Weddell Sea and one for Krill assessment studies in the Antarctic waters have also been undertaken.

The Indian station *Maitri* situated in the Central Droning Maud land of east Antarctica has provided a platform to more than 1,300 personnel drawn from about 50 national laboratories, institutes and universities to conduct experiments in all major disciplines of polar sciences. The Indian Army and the Defence Research and Development Organisation (DRDO) laboratories have aptly provided the specialised logistics required for the scientific mission.

The ability to conduct front ranking science on a year round basis from our permanent base in Antarctica has ensured India to play a pre-eminent role as a Consultative Member in the Antarctic Treaty system since 1983. The long-term scientific strategy of India in Antarctica is designed mainly to address the issues of national interest and contribute to global campaigns mounted by SCAR in the icy continent. This has prompted the initiation of several international collaborative experiments in various domains of polar science and logistics with France, Germany, Italy, South Africa, Argentina, Iran and Peru.

Even while using Antarctica as a platform for conducting scientific research, India has always recognised the importance of preserving the pristine nature of this continent, which controls intricate global processes of the earth. To uphold these commitments, India, an original votary of the Protocol on Environmental Protection to the Antarctic Treaty, has ratified this Protocol in April 1998 which led to our membership to the Committee on Environment Protection (CEP) during the 22nd Antarctic Treaty meeting held in Norway.

For the first time in the history of Indian Polar Science Programme, the 19th Indian Scientific expedition to Antarctica with 47 members team was launched from Cape Town, South Africa, on 9 December 1999, keeping in view the likely scientific and economic benefits and future international cooperation in the field of polar science between India and other countries.

In addition to the ongoing programmes several new experiments have been initiated during the course of this expedition, which include: (i) Study of earth-air current systems to give an insight to the deep space processes; (ii) Experiments on crack propagation of the ice-shelf in order to understand the dynamics and processes of iceberg generation; (iii) Installation of a number of automatic weather stations to measure energy balance and albedo factors of the ice, as a part of global change studies; (iv) Reconstruction of the past climatic and vegetative history through the study of organo-debris present in the fresh water lake sediments of Antarctica; and (v) Establishment of an environment monitoring laboratory for the first time at *Maitri* in order to carry out an year round assessment of the status of air, noise, water biological and land environment of Antarctica.

The summer team of the 20th expedition returned to India in March 2000 along with the winter team members of the 19th expedition.

MARINE LIVING RESOURCES

The studies undertaken in this programme are :

Marine Environment and productivity studies : The marine environment and the productivity patterns determine distribution and abundance of exploited living resources. Under the Marine Living Resources programme of the Department, information on these aspects is gathered for the entire Indian Exclusive Economic Zone (EEZ) on a seasonal basis through dedicated cruise of the research vessel Fishery and Oceanographic Research Vessel (FORV) *Sagar Sampada*.

Fishery Resource survey along the Indian continental slope : The project envisages assessment for demersal fishery resources of the Indian continental slope by acoustic survey and trawling operations. Four cruises of FORV *Sagar Sampada* dedicated to the project were carried out in the Indian EEZ. Occurrence of deep sea lobster and deep sea shrimps were reported from the Andaman sea at a depth of 300-330 m. Deep sea shrimps were also reported from south-west coast in the 300-620 m depth zone.

Studies on the Deep Scattering Layer : The project envisages detailed

studies on the bio-composition, abundance and distribution of the DSL resources in the Indian EEZ. DSL resources between 150 and 500 m depth were studied by bioacoustics through six cruises of FORV in the Arabian Sea, three cruises in the Bay of Bengal and one cruise in the Andaman Sea. Surveys were conducted. The DSL showed diurnal vertical migrations.

Studies on Toxic Algal Blooms: The project is designed to foster the effective management of, and scientific research on toxic algal blooms, in order to understand their causes, predict their occurrence and mitigate their effects. Samples collected from 147 stations in five cruises of FORV were analysed for toxic algal presence. The micro flora included 152 species of algae. Eleven harmful species have been recorded.

Benthic Productivity Studies: The project envisages a comprehensive study of the productivity, nature of the resources, conversion of organic matters, process of mineralisation, taxonomy and community structure of the benthic fauna in the continental shelf of the Indian EEZ. A cruise of FORV *Sagar Sampada* dedicated to benthic productivity studies was undertaken in shelf waters of the west coasts. Sediment samples were collected from 58 stations from 30m, 50m, 100m and 200m depths.

The Sagar Sampada Cell at Kochi, which is operating and managing the Fishery and Oceanographic Research Vessel *Sagar Sampada* and coordinating the implementation of the Assessment of Marine Living Resources programme, would eventually emerge as the full-fledged Centre for Marine Living Resources and Ecology in the next few years

Under the DOD National Project on Development of Potential Drugs from the Ocean, so far about 1,400 species of marine flora and fauna have been collected and identified from different coastal areas. More than 4,000 samples have been collected and evaluated for their biological activity. Several of these samples were found to exhibit mild to strong therapeutic activities like antidiabetic, antidiarrhoeal, antihyperlipidaemic, etc., from various fractions derived therefrom. Out of the six marine organisms showing potent anti-diabetic/anti-diarrhoeal; anti-hyperlipidaemic, anti-anxiety, anti-cholesterol cum antioxidant; anti-bacterial cum anti-fungal and larvicidal activities, substantial progress has been made in the development of three of these besides continuing with the ongoing exploratory activity. Three of these samples, viz., antidiabetic, antidiarrhoeal, and antihyperlipidaemic, were taken up for toxicity studies. Their activities have been revalidated in repeat collection and regulatory sub-acute toxicity studies in two rodent species. The rodent toxicity has already been completed on the above first two preparations and were found safe and devoid of any side effect. The regulatory sub-acute toxicity studies of the antidiabetic and antidiarrhoeal preparations in primates are now in progress. Sub-acute toxicity studies of the third preparation in rodents are underway. Product development work on about 13 organisms that have further been identified for various therapeutic activities will also be undertaken.

MARINE NON-LIVING RESOURCES

India was accorded the status of a Regional Pioneer Investor in 1987 pursuant

to her efforts and progress in the identification and assessment of the polymetallic nodules in the Central Indian Ocean Basin (CIOB). The country has since made considerable progress towards endowment assessment technology and manpower development towards exploitation of the potential resources. The programme consists of four components—Survey & Exploration of nodule in the CIOB; Environmental Impact Assessment Study; Development of technologies for mining of nodules; and Extraction of metals. The programme is guided and reviewed by the PMN Board of Management.

Survey & Exploration in the CIOB mine site was continued for updating relative concentration and quality characteristics of the polymetallic nodules in different pre-determined blocks. Grab samples were collected during a cruise to CIOB as part of close grid sampling at five km in selected blocks initiated earlier.

A joint collaborative programme for deep-sea mining technology has been initiated with Institut für Konstruktion (IKS), University of Siegen, Germany to develop a crawler based flexible riser—positive displacement pumping concept for deep sea mining. In the first phase, an underwater crawler developed at IKS has been refurbished with a manipulator, cutter, slurry pump, hydraulics, electrical, instrumentation and control systems for sand mining operation at 500 m water depth.

As part of the first stage demonstration the crawler and the various systems were successfully tested at a water depth of 410 meters off Tuticorin during April 2000. The system pumped sand and slurry at a variable flow rates with a maximum concentration of 1,170 kg/cu.m. Another test was done off Tuticorin Coast at 33 meters depth. An *in-situ* soil tester has been successfully tested off Tuticorin coast at 34 m water depth. Based on the results a similar tester will have to be developed for 6,000m operations.

Under the MoU with Russian Academy of Sciences (RAS), it is proposed to develop an unmanned submersible capable of operating up to 6,000 m depth. NIOT, Chennai and Experimental Design Bureau of Oceanological Engineering (EDBOE), RAS, have initiated a proposal to design, develop and test the unmanned submersible capable of working up to 6,000 m water depth. The work under this joint collaborative effort would be commissioned shortly.

A semi-continuous demonstration pilot plant to process 500 kg per day of polymetallic nodules from Indian mine site to validate the process package developed for extraction of metal values from nodules by Regional Research Laboratory, Bhubaneswar and Bhabha Atomic Research Centre, Trombay, is being set up at Hindustan Zinc Limited (HZL), Udaipur. The Department has already collected about 80 tonnes of nodules for this demonstration plant with the help of research vessel *R.V.A.A.Sidorenko*. The demonstration campaigns will generate data for techno-economic studies.

MARINE ENVIRONMENT AND COASTAL ZONE

The Coastal Ocean Monitoring and Prediction System (COMAPS) programme is being implemented since 1990-91. The investigations are carried out by six institutions at about 47 locations in the 0-25 km transects from the coast to

the sea. Diffusion and dispersion characteristics of pollutants are being carried out at 11 locations. The data collected so far have indicated that the sea off two km from the coast is clean, except in the case of Mumbai, where the sea beyond five km is clean.

COASTAL RESEARCH VESSELS

Two Coastal Research vessels, namely, *Sagar Purvi* and *Sagar Paschimi* are used for the coastal oceanographic research programmes of DOD and NIOT (National Institute of Ocean Technology) including COMAPS. The vessel times are also made available to public and private sectors on a payment basis depending on the nature of the programme. Both the vessels undertook cruises covering sampling stations for collecting water, sediment, CTD and plankton samples during 2000-2001.

INTEGRATED COASTAL AND MARINE AREA MANAGEMENT

During the Ninth Plan period, the DOD took up for implementation infrastructure development and capacity building activities to facilitate adoption of the concept of Integrated Coastal and Marine Area Management (ICMAM) in the coming years. These activities focus on development of expertise in ICMAM oriented activities, and dissemination of knowledge gained to the users like coastal states through organised training programmes. The Department established a ICMAM Project Directorate at Chennai which is implementing various activities as planned in the following main areas from 1998-99 onwards.

Under the project 'Environment Management Capacity Building' coordinated by the Ministry of Environment and Forests, the capacity building activities funded by the World Bank are being carried in the following areas: (i) Development of GIS based information system for 11 critical habitats like coral reefs, mangroves, etc., in Gulf of Khambat, Gulf of Kutch, Malvan, five islands off Karwar, three islands off Cochin, Gulf of Mannar, Pitchavaram, Coringa mangrove, Gahirmata, Sunderbans and Kadamat (Lakshadweep). GIS for habitats Pitchavaram mangrove, Gulf of Mannar, Kadamat island, islands off Karwar, Malvan, and Gulf of Kutch have been completed; (ii) Determination of waste load allocation based on waste assimilation characteristics of selected estuaries (Tapi estuary and Ennore creek) was carried out. The studies have been concluded; (iii) Development of EIA guidelines for major coastal developmental activities and processes like construction of ports, harbours and breakwaters, waste disposal from domestic and industrial wastes, marine transportation and coastal tourism undertaken; (iv) Environmental Impact Assessment (EIA) guidelines for ports and harbours is completed; (v) Under the project on Development of model ICMAM plans for Chennai, Goa and Gulf of Kutch, a design for Decision Support System has been completed for Chennai; and (vi) Under Infrastructure, Training, R&D and Survey component, infrastructure facilities are being created to house a long term training programme for utilising the capacity built under the Capacity Building programme. The training will be provided to the coastal states in the development of ICMAM Plans and use of GIS in the management of critical habitats. R&D activities like determination of Use Classification for coastal

waters and determination of No Impact Zone in critical habitats such as mangroves, lagoons, etc., as part of the pre-requisites for adoption of ICMAM are being carried out.

OCEAN OBSERVATIONS AND INFORMATION SERVICES

The Ocean Observations and Information Services (OOIS) envisage generation and dissemination of reliable coastal and ocean data products such as waves, winds, temperature, current, salinity, upwelling, potential fishing zone information, coastal maps, etc., to support coastal and off-shore developmental activities and for furthering quality oceanographic research. The OOIS also envisage development of systems for ocean state forecast, on experimental basis by terminal year of the Ninth Plan. The OOIS programme consists of four major components, *viz.*, Ocean Observing Systems, Ocean Information Services, Ocean Dynamics and Modelling, and Satellite Coastal and Oceanographic Research.

OCEAN OBSERVING SYSTEMS

The objective of Ocean Observing Systems (OOS) programme is to acquire *in situ* oceanographic and surface meteorological parameters on real-time basis from the seas around India. The parameters being measured under the programme include surface winds, waves, atmospheric pressure, temperature, sea surface temperature, salinity, temperature profiles, dissolved oxygen, hydrocarbons, nutrients, radio-activity, sea-level, etc. The instruments deployed for measurements of these parameters are moored data buoys, drifting buoys, expendable bathythermographs (XBT), current meter arrays and tide gauges. Validation of the satellite sensors would also be undertaken using the sea truth data generated under this programme. The OOS project consists of three sub-projects, *viz.*, National Data Buoy Programme, Sea Level observation and Drifting buoy and other Observing systems.

Under the National Data Buoy Programme, being implemented by NIOT, 12 data buoys have been deployed in the Indian seas. The buoys are equipped with state-of-the-art sensors for measurement of winds, waves, currents, atmospheric pressure, atmospheric temperature, sea surface temperature, dissolved oxygen, chlorophyll, radioactivity, hydrocarbon and turbidity. A shore station was commissioned at NIOT for retrieval, processing, analysis and storage of the data from the buoys on a real time basis. The met-ocean data from these buoys are being disseminated to Meteorological Department Coast Guard, Port Trusts on a daily basis.

The programme being implemented through NIO, Goa envisages deployment of drifting buoys, expendable bathythermographs (XBTs), and current meter arrays, for augmentation of *in situ* oceanographic data. About 48 drifting buoys, three current meter arrays and 900 XBTs would be deployed under this programme during the Ninth Plan period.

Under the Sea Level Observation project, 10 modern tide gauges stations were established at Mumbai, Porbunder, Goa, Kochi, Chennai, Visakhapatnam, Paradip, Kavaratti, Machlipatnam and Tuticorin for systematic and accurate

monitoring the tidal level to derive long term variations in the mean sea levels. The data from these tide gauges are collected regularly and sent to the National Tide Data Centre at Survey of India, Dehradun. Based on the sea level data collected along the Indian coast, a numerical model has been constructed to simulate circulation in the Northern Indian Ocean.

The Land Ocean Interaction in the Coastal Zone (LOICZ) project envisages estimation of fluxes of material in the land and ocean boundary and its variability for understanding the changes in the coastal zones at regional and global scale particularly with respect to global climate change. Two coastal areas such as Godavari Basin and Eastern Arabian Sea Margin have been considered for undertaking these studies.

OCEAN INFORMATION SERVICES

The National Centre for Indian National Ocean Information Services (INCOIS) was set up at Hyderabad in February 1999 as an autonomous body of the Department for generation and dissemination of user oriented data products, on operational basis. Near real-time data and data products such as Sea Surface Temperature (SST) and Potential Fishing Zone (PFZ) advisories, upwelling zones, maps, eddies, chlorophyll, suspended sediment load, etc., consultancy services to the Central Government, States, corporate sector industries, will be available to the user agencies under one roof.

OCEAN DYNAMICS AND MODELLING

Knowledge of ocean dynamics is a prerequisite for prediction of ocean state based on ocean models. During 1998-99, dynamics of marine ecosystem and air-sea exchange of carbon dioxide were studied using Modular Ocean Model. Air-sea interaction process of monsoon prediction was studied using ocean-atmosphere coupled model. A storm surge prediction model for estimating inland inundation in Andhra coast was developed and a seven component Nitrogen-based Ecosystem Model completed.

SATELLITE COASTAL AND OCEANOGRAPHIC RESEARCH

The project envisages development of algorithms and models for retrieval of met-ocean parameters, *i.e.*, sea surface temperature, winds, waves, bathymetry, suspended matter, mixed layer depth, chlorophyll, aerosol, water vapour, clouds, currents and sea level from satellite sensors. The data-assimilation models on waves and ocean circulation would also be developed. During the year, development of retrieval algorithms and validation of Sea Surface Temperature and waves from ERS-1 was completed which includes customization of the software. Studies on latent heat flux and eddies would be completed from ERS and Altimeter, respectively. Development of software for estimation of coastal bathymetry from SAR and Altimeters was completed.

MARINE RESEARCH AND CAPACITY BUILDING

The Department of Ocean Development lays special emphasis on encouraging basic and applied research in ocean related subjects. The focus is on assisting the Universities and on building up a skilled human resource base in Marine Sciences. The objective of this programme is to encourage research in newly

emerging and front line areas of Coastal Engineering, Marine Chemistry, Marine Biology and Microbiology, Pharmacology, Coastal Zone Management, Exploration and Exploitation of Marine Resources, etc., to create infrastructure facilities in Universities and to inculcate scientific temper among the people on Ocean Science.

For promotion of front-ranking research in Ocean Science & Technology and related human resource development, Ocean Science & Technology Cells (OSTCs) have been set up in the following disciplines at nine centres: (i) Marine Microbiology - Goa University, Goa; (ii) Marine Coastal Ecology (E. Coast) - Berhampur University, Berhampur; (iii) Marine Coastal Ecology (W. Coast) - Bhavnagar University, Bhavnagar; (iv) Marine Geology and Geophysics - Mangalore University, Mangalore; (v) Coastal Marine Culture Systems - Andhra University, Visakhapatnam; (vi) Beach Placers - Tamil University, Tanjore; (vii) Marine Biology - Annamalai University, Parangipettai; (viii) Marine Benthos - Cochin University of S & T, Kochi; and (ix) Ocean Engineering & Underwater Robotics - IIT, Kharagpur

COASTAL COMMUNITY PROGRAMMES

SHORE TO FISHING VESSEL COMMUNICATION SYSTEM

For demonstrating the usefulness of communication system to the fisherfolk who are at sea, shore stations were set up at seven places, viz., Shankarpur and Frasergunj in West Bengal, Paradeep and Chandipur in Orissa, Salegao in North Goa and Periya Veerampattinam in Pondicherry. Out of these, four centres in West Bengal and Orissa were operationalised. Construction of shore stations and erection of towers/mast for fixing antenna in Andaman & Nicobar Islands is in progress.

ISLAND DEVELOPMENT

The National Institute of Ocean Technology (NIOT), Chennai has taken up new initiatives towards helping island communities in their needs relating to Ocean Science and Technology as well as marine resource enhancement. The first activity taken up by NIOT is a programme on lobster resource enhancement for islands under the DOD project on Living Marine Resources Enhancement (LMRE). The programme on lobster resource enhancement is already underway by utilising the hatchery facility of Tamil Nadu Fisheries Development Corporation (TNFDC) available at Neelankarai, Chennai. Several experiments have already been carried out in the following areas: (a) Fattening of spiny lobster *Panulirus homarus* using different live feeds (mussels and clams); (b) Biochemical analysis of lobsters and live feeds; (c) Water quality and disease management; (d) Spawning and larval rearing; and (e) Survey of lobster resources in Gulf of Mannar and Andaman Islands.

INTERNATIONAL PROGRAMMES

The Department of Ocean Development is the nodal agency for implementation of the provisions of United Nations Convention of the Law of the Sea

(UNCLOS), in India. UNCLOS is an important instrument which establishes the framework and mechanisms for management of oceans. India ratified the Convention in June 1995. With coming into force of United Nations Convention on Law of the Sea, the institutions such as International Seabed Authority (ISBA) and Commission on the Limits of Continental Shelf (CLCS) came into existence. India regularly participates in the meetings of ISBA, CLCS and also in the meeting of States Parties on Law of the Sea (SPLOS) and continues to play the key role in matters on Law of the Sea.

COMNAP/SCALOP MEETINGS

After becoming a member of the Antarctic Treaty, India hosted the 11th meeting of the Council of Managers of National Antarctic Programme (COMNAP) & Standing Committee of Antarctic and Logistic Operations (SCALOP) and the executive meeting of the Scientific Committee of Antarctic Research (SCAR), at Goa from 19-24 September 1999. Eighty delegates from all the consultative party countries attended the meeting.

COMMISSION FOR CONSERVATION OF ANTARCTIC MARINE LIVING RESOURCES

The Commission for Conservation of Antarctic Marine Living Resources (CCAMLR), an intergovernmental organisation under the Antarctic Treaty System with 23 member countries and six state parties to the Convention, sets guidelines for optimum exploitation of living resources of Antarctic waters based on an ecosystem approach. India chaired the 18th meeting of CCAMLR at Hobart, Australia from 25 October to 5 November 1999. The need for CCAMLR to exert effective control over fishing activities taking place in contravention of the Convention or of the spirit in which it was negotiated was highlighted by India in this meeting.

INTER-GOVERNMENTAL OCEANOGRAPHIC COMMISSION

Established in 1960 under UNESCO, the Inter-governmental Oceanographic Commission (IOC) is promoting global co-operation in marine scientific investigations, ocean services and capacity building in developing countries through the concerted efforts of all the 127 member states. India a member of IOC and presently a member on its Executive Council is contributing to the growth of oceanographic research and services.

The IOC Committee for Central Indian Ocean (IOCINDIO) Regional Workshop and WMO/IOC Regional Meeting on the proposal on Storm Surge Disaster Reduction in the Northern Part of the Indian Ocean, was organised during 20-26 October 1999 in New Delhi. The workshop was convened by World Meteorological Organisation and Intergovernmental Oceanographic Commission with a view to considering the draft proposal by the member countries in the Northern Indian Ocean. The Committee recommended setting up of a Regional Project Office in Delhi for implementation of the project. The third session of IOCINDIO was held during 21-23 February 2000 in Tehran.

AUTONOMOUS INSTITUTIONS

NATIONAL INSTITUTE OF OCEAN TECHNOLOGY

The National Institute of Ocean Technology (NIOT), Chennai was established in 1993. NIOT's activities are in the areas of Ocean Energy, Deep-sea mining, Coastal and Environmental Engineering and Marine Instrumentation. Two pioneering projects are in the area of mining technology demonstration and design and installation of 1 MW floating OTEC pilot plant. A new activity of NIOT is the provision of science and technology inputs for the island communities. Other operational programmes handled by NIOT are National Data Buoy Programme (NDBP) and Operation and Management of Coastal Research Vessels owned by DOD.

NATIONAL CENTRE FOR ANTARCTIC AND OCEAN RESEARCH

In order to consolidate the gains accrued from the Antarctic expeditions and to stimulate the research in the frontier area of polar science, the National Centre for Antarctic & Ocean Research (NCAOR), Vasco, Goa; (formerly Antarctic Study Centre), was established as an autonomous society of the Department of Ocean Development with effect from 25 May 1998. The institute has a focussed scientific mandate confined to undertaking research in those areas of polar science, which otherwise are not being pursued in other institutions or laboratories in the country. The scientific infrastructure and expertise will specifically be developed in the areas of palaeo-climate and palaeo-environment studies through analysis of ice and sediment cores; sea-ice atmosphere interaction; climate modelling through polar remote sensing; oceanography of the southern oceans; and cryobiology & environmental physiology. The Goa University and Mangalore University have recognised NCAOR as a research centre for academic pursuit leading to doctoral degrees in polar science. The mandate of the NCAOR is, to plan, promote, co-ordinate and execute polar science and logistic activities of the country in order to ensure a perceptible and influential presence of India in Antarctica and uphold its interests in the global framework of nations in the southern continent and the surrounding oceans.

BIOTECHNOLOGY

The revolutionary developments in DNA technology, the work on human genome and related areas have opened up immense possibilities. We now have tools to produce designer species. The setting up of a separate Department of Biotechnology, under the Ministry of Science and Technology in 1986 gave a new impetus to the development of biotechnology in India. Through more than 1,500 R&D projects, demonstrations and creation of infrastructural facilities Biotechnology-related developments in agriculture, health care, environment and industry are now culminating in products and processes. Publishing of quality research papers, development of a skill-pool in biotechnology, technology transfer, national and international patent are some of the noteworthy achievements of the Department of Biotechnology (DBT). DBT has been interacting with more than 5,000 scientists every year in order to utilise the expertise of the universities and other national

laboratories. A very strong peer reviewing and monitoring mechanism has been evolved. There has been close interaction with the State Governments particularly through State S and T Councils for developing biotechnology application projects, demonstration of proven technologies, and training of human resource. Programmes have been evolved with the states of Gujarat, Rajasthan, Madhya Pradesh, Orissa, West Bengal, Haryana, Punjab, Jammu & Kashmir, Mizoram, Andhra Pradesh and Uttar Pradesh.

HUMAN RESOURCE DEVELOPMENT

To generate trained personnel in the area of Biotechnology, an integrated HRD programme is being implemented. The post-graduate teaching and post-MD/MS training programmes are being implemented in about 60 universities and R&D institutions. Around 550 students are admitted annually. Every year 20-25 overseas Associateships are awarded for research in frontier areas of biotechnology. A post-doctoral fellowship programme is implemented through Indian Institute of Science, Bangalore for advanced research training in universities and research institutions in the country. Other programmes include seminars and symposia, popular lectures and short-term training courses. An industrial training programme is being implemented with the help of M/s Biotech Consortium India Limited to train about 35 students, who have completed their post-graduate degree in various biotech industries. Up to 10 National Bioscience awards for career development have been instituted for young bioscientists below the age of 45 years and three awards for women scientists have also been instituted. Five awards have been instituted to promote "Biotech process, product development and commercialization".

BIOTECHNOLOGY FACILITIES

In most advanced areas of modern biology and biotechnology, infrastructure facilities have provided a boost for R&D and services. The National Facility for Microbial Type Culture Collection (MTCC) at the Institute of Microbial Technology, Chandigarh, which conserves more than 10,000 industrial microbes is being upgraded to the level of International Depository Authority; National Facility for Blue Green Algae (BGA) Collection at Indian Agricultural Research Institute, New Delhi has about 800 blue green algae; National Facility for Marine Cyanobacteria at Bharathidasan University, Trichirapalli stores more than 300 strains of marine cyanobacteria collected from Indian sea shores; National Facility for Plant Tissue Culture Repository at National Bureau of Plant Genetic Resources (NBPGR), Pusa, New Delhi has 850 *in vitro* conserved crop species; Laboratory Animal House Facilities at Central Drug Research Institute (CDRI), Lucknow and National Institute of Nutrition (NIN), Hyderabad have supplied 86,000 and 60,000 experimental animals respectively; Centre for Genetic Engineering and Strain Manipulation at Madurai Kamraj University, works on streptomycin group of antibiotics; and the Biochemical Engineering Research and Process Development Centre at IMTECH, Chandigarh helps in testing and standardisation of high-value metabolites in large bioreactors for commercial feasibility studies. The DNA Sequencing facilities at Indian Institute of Science, Bangalore and University of Delhi (South Campus) are providing support for DNA sequencing studies. The new repositories, namely,

Repository on Cryopreservation of blood cells at Institute of Immunohaematology, Mumbai; Repository on Medicinal and Aromatic Plant materials at Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow and Repository on Filaria and Reagents, MGIMS, Sevagram have been functioning since 1997. A Repository on *Drosophila* has been strengthened to develop educational sets for demonstrating genetic experiments in schools and colleges. Scientists and students and industries are regularly indenting the services of these facilities. National Facility for Virus Diagnosis and Quality Control of Tissue Culture Raised Plants at IARI, New Delhi with five satellite centres and Containment Facility for Transgenic Planting Material at NBPGR, New Delhi have also been established.

Under the 'Programme Support Scheme', grants are provided for establishment of programme-based facilities and centres of excellence in various areas of advanced biotechnology and modern biology. Such centres undertake basic research in modern biology leading to specific products and processes through a team work and also serve as National Infrastructure Facilities extending services to the scientific community. At the Indian Institute of Science, Bangalore, a major programme support in the high priority areas of modern biology was launched for five years involving 55 faculty members to carry out research on three sub-programmes: infectious diseases, drug and molecular design as well as genome diversity and genetic disorders. Another programme support at Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram is undertaking basic research in priority areas, *viz.*, infectious diseases, animal biotechnology, environmental biotechnology, genetic diseases and molecular basis of biological functioning. The programme support is expected to deliver products/processes such as reagents of paramount value for disease diagnosis, prevention, prophylaxis, drug designing and therapeutics for genetic disorders.

NATIONAL CONTAINMENT/QUARANTINE FACILITY FOR TRANSGENICS PLANTING MATERIAL

The Facility has been established at National Bureau of Plant Genetic Resources (NBPGR), New Delhi, for testing of transgenic planting material in contained conditions prior to their release for planting in open fields. The main purpose of the facility is to prevent entry of any harmful transgenic planting material in the country. In addition, the facility is engaged in developing DNA probes/markers required for evaluation of the transgenic material and also training of human resource in the area.

BIOTECHNOLOGY INFORMATION SYSTEM NETWORK

India has evolved a National Bioinformatics Network (NBN) for sustainable utilisation of Biological data available through online or off-line methods with an apex Centre, 10 Distributed Information Centres (DICs) and 44 Sub-Distributed Information Centres (Sub-DICs). These centres have built up capabilities to carry out Bioinformatics R&D activities towards the development of Computational tools for the Biotechnology applications.

The network programme made excellent progress in terms of disseminating the upto date information resources to the researchers for the development of various Bioinformatics tools for Biotechnology applications. The centres were networked through Satellite Communication System. The International Legume Database (ILDIS) has been established at NBRI Lucknow that extends legume informatics services to the Biotechnology Information System Network (BTISnet) users. The six interactive Computer Graphics facilities and four one-year Post Diploma Courses in Bioinformatics have made good progress. These courses are being implemented by Madurai Kamraj University, Madurai; University of Poona, Pune; Calcutta University, Kolkata; and Jawaharlal Nehru University, New Delhi. Several internationally recognised Genomic Databases such as EMBnet, PDB, GDB, EBI Databases and Plant Genome Databases were established in India in the form of Mirror Sites. These databases are tuned to support Genomics & Proteomics R&D activities through High-Speed and High Bandwidth Network services. The public domain scientific software products have been grouped in the form of a Mirror Site as part of the BTISnet to provide useful Computer Software Packages to the Molecular and Biotechnology Research. Important research leads are expected to be generated through in-depth analysis of such data and it is expected that these Mirror Sites will act as knowledge pathways for discoveries in modern biology and biotechnology.

CROP BIOTECHNOLOGY

Biotechnology in agriculture can help in both productivity and quality enhancement. Transgenic system in Arabidopsis, rice and wheat have been established and are being used to produce transgenics with improved traits as well as understanding the mechanism of regulated gene expression. In a multi-institutional project on development of transgenics in four major crops—cotton, rice, mungbean and tomato for resistance to biotic stresses, a good beginning has been made. Fully regenerating Coker 310 lines are available and synthesis of modified Cry 1 A(c) gene initiated. Search for novel antifeedent protein effective against *Heliothis* is on. Twenty isolates of CLCuV are maintained in insect free green house at Hissar. Also characterisation of RTSV coat protein gene has been initiated.

India has joined the International Rice Genome Sequencing Programme (IRGSP) in collaboration with ICAR to sequence chromosome number 11. This chromosome has been chosen because it carries genes for a number of very important agronomic traits. The project would help accumulate fundamental data, the application of which will help produce genetically modified rice plants having desirable traits like improved plant architecture, high grain yield, better quality, resistance against pests and diseases and improved adaptability to environmental stress like drought.

BIOFERTILIZERS

Development projects have been implemented with the objectives namely; development of integrated nutrient management packages for different cropping system prevalent in the agro-climatic zones of the country, development of transgenic microbial inoculants having high nitrogen fixation ability, nutrient

solubilisation and mobilisation, etc., research and development leading to new technology and for commercial production of biofertilizers based on these new technologies.

Mycorrhiza : Mass production of AM fungi which is suitable for almost all crops including plantation crops and forest trees developed at TERI, New Delhi have been transferred to M/s. K.C.P.Sugar and Industries Corporation Limited, Anna Salai, Chennai.

BIOCONTROL AGENTS

Twelve new bio-pesticides have been developed. Two pilot plants are producing bio-control agents for use by the farmers, catering to the needs of about 0.224 million ha. An area of 75,000 ha. has been covered in different field crops under various agroclimatic regions for demonstrating the use of bio-control agents. More than 35,000 farmers have benefited by attending the on-site training programmes and extension activities. The technologies for mass production of candidate bio-control agents belonging to categories of baculovirus, parasites, predators, antagonistics and entomopathogenics fungi and bacteria for the management of pest and diseases of economically important crops have been transferred to industries.

BIOPROSPECTING

Vegetation Mapping of Assam, Arunachal Pradesh, Mizoram, Sikkim and Meghalaya in North-Eastern Region and Kerala, Tamil Nadu in Western Ghats has been completed. Ground Data Collection in NE Region-Arunachal Pradesh, Assam, Meghalaya, Mizoram, Tripura, Sikkim and Manipur has been accomplished. Species identification in Arunachal Pradesh, Assam, Meghalaya, Sikkim, Mizoram in NE-Region has been completed. Genetic diversity and DNA profiling studies have been carried out for about 15 species. Low temperature related genes were amplified and cloned. A cold tolerant superoxidedismutase (SOD) enzyme was isolated from the cold region plant which was also found to be stable at very low and high temperatures. Three cDNA libraries have been constructed on the stress-induced genes isolated from the mangrove species. Twenty-three potential stress tolerant genes have been isolated and fully sequenced. A 22 kDa salt stress induced protein has been identified from the species. A good level of expression has been shown in different crops. Bioactive molecules have also been identified. These are being characterised for their application in therapeutics and as biopesticides.

MEDICINAL AND AROMATIC SPECIES

For conservation of our medicinal and aromatic species, four National Gene Banks have been established at the Tropical Botanical Garden and Research Institute, Thiruvananthapuram; National Bureau of Plant Genetic Resources, New Delhi; Central Institute of Medicinal & Aromatic Plants, Lucknow; and Regional Research Laboratory, Jammu. These are equipped with field banks, seed bank and *in vitro*/cryo-preservation facilities. The Department of Biotechnology is also the nodal agency for the co-ordinated project on gene banks for medicinal plants among G-15 countries. A study of the immunomodulatory agents from certain plants reputed in Ayurveda has

resulted in the isolation and purification of biologically active compounds from *Berberis aristata* and *Tinospora cordifolia* with immunomodulatory activity. A peptide having hypoglycaemic activity has been characterised from bitter melon and a novel part of this peptide has also been sequenced. An anti-ulcer compound isolated from neem has shown great promise. Using *in vitro* screens, it has been shown that *Phyllanthus urinaria* and *Aegle marmelos* possess anti-proliferative properties. Studies on the genetic improvement of a number of medicinal and aromatic species are being supported. A National Jai Vigyan S&T Mission on herbal products has been launched.

SERIBIOTECHNOLOGY

The Department in association with the Central Silk Board (CSB) has identified thrust areas in sericulture (both mulberry and non-mulberry) in which biotechnology can play a vital role in increasing productivity, enhancing the quality of silk and bringing about improvement of host plants. Towards the integrated management and control of uzi fly, a serious pest of silkworm, it was demonstrated that two components, *viz.*, spraying benzoic acid and release of an insect parasitoid, can be successfully integrated for the effective suppression of uzi menace at farmer's level. Immunodiagnostic tests are being carried out to make them more specific and sensitive. Several artificial diet formulations for rearing of silkworm larvae have been developed and are being tested at laboratory level. A silkworm genome project has been initiated for the construction of the molecular genetic map using genetic analysis of recombinant inbred cell lines. Efforts are also being made to use the silkworm as a bioreactor, through the expression of hepatitis E in the silkworm. Further, enzyme processing of silk is being investigated. Gynogenic haploids have been produced in mulberry and a protocol for regeneration of triploids has also been developed.

ANIMAL BIOTECHNOLOGY

The major emphasis is to enhance productivity in farm animals through new technologies. Significant progress has been made in the area of transgenesis and cloning. In a multicentric programme on development of transgenic animals, 16 transgenic lines were developed. These transgenic animals can be used as model animals for various studies. Experiments on cloning have shown interesting results through nuclear transfer technique and attempts are being made to produce cloned animals through somatic cell cloning. Efforts are on to develop a reliable pregnancy diagnostic kit for cattle and buffalo.

Efforts are being made to develop improved vaccine against *Haemorrhagic septicaemia* and recombinant anthrax vaccine. Significant progress has been made in the area of diagnostics specially for Blue Tongue virus, Bovine tuberculosis, PPR, etc. Genetic characterisation of cattle, buffalo, goat, etc., has been undertaken at different centres. Embryo preservation work for indigenous breeds of cattle and buffalo is in progress.

For the production of enriched animal feed, two reactors of 200 litre capacity, have been developed and experiments are being conducted to evaluate their performance. The genomic DNA and cDNA libraries of the

white-rot fungi, *Pycnoporus cinnabarinus* and *Cyathus bulleri* are being constructed for screening. Ligninase and laccase genes of white rot fungus would improve the digestibility and nutritional content of the animal feed.

AQUACULTURE AND MARINE BIOTECHNOLOGY

The focus has been on development of transgenic fish, bioactive compounds from marine organisms, development of bioreactors, diagnostics and vaccines. These efforts were towards productivity increase and diversification in aquaculture. Projects on culture technology of non-conventional species like mud-crab, groupers, freshwater prawn and seaweeds have demonstrated good progress. Projects were initiated on the development of recombinant DNA vaccine, sulphated polysaccharides from seaweeds, enzymes from deep-sea fungi, mud-crab hatchery technology, mathematical model for environmental parameters in aquaculture production system and strengthening molecular biology expertise in fisheries through hands on training.

BIODIVERSITY CONSERVATION AND ENVIRONMENT

Realising the tremendous potential of bioremediation technologies, a number of programmes have been initiated for developing and demonstrating technologies relevant to the needs of the industries. Concerted efforts are being made to involve the industry from the beginning and to validate the process at the site of industry to facilitate absorption and transfer of technology to the user. As a result, a number of technologies have been standardised which are ready for use by industries, viz., starch factory waste water treatment, palm oil mill effluent treatment, dye industry effluent treatment, eco-restoration of degraded ecosystems and mine spoiled dumps. In addition, network programmes have been formulated for pesticide bioremediation and steel slag treatment. A number of industries are involved in the process development, process optimisation, validation and sharing of funds.

Germplasm-Characterisation: The Department of Biotechnology is laying emphasis on using molecular markers and isozyme markers for identification of genetic diversity.

MEDICAL BIOTECHNOLOGY

The main objective is towards the development of diagnostics, new vaccines for prophylactic and therapeutic use, drug delivery systems, production of important biological/ biomolecules, generation of programmes in the identified thrust areas and close interactions with the industries for transfer of the technologies.

DISEASES

Tuberculosis : Validations of PCR systems using different primers have been carried. A Mycobacterium repository at Jalma, Agra has about 700 well-characterised isolates. Research is being carried out to develop vaccines alternate to BCG for tuberculosis. The candidates are M.habana, Mw, 71 kDa cell wall protein and recombinant BCG incorporating 6 antigens of *M.tuberculosis*.

HIV: Multicentric studies on immunological and virological responses in HIV infection carried out at PGIMER, Chandigarh; AIIMS, New Delhi; and NICD, Delhi revealed that absolute and range of CD4 cells in healthy controls and in Indian patients with AIDS are lower than those reported from the West. Soluble TNF R-II assay appears to be a reliable marker of disease activity besides CD4 absolute number. Studies on antisense/ribozymes against Indian strains of HIV, being carried out at NII, New Delhi resulted in construction of several ribozymes and DNA-enzymes against HIV-1 and HIV-1 co-receptors.

The viral repository at NARI, Pune, is fully operational and has 90 HIV isolates obtained from different parts of India. Of these 84 are HIV-I isolates and six HIV-II isolates.

Malaria: Studies at IISc, Bangalore, suggests that enzyme ALAD is a novel way of delivering anti-malarial compounds. The studies at AIIMS, New Delhi, on characterisation of *P. vivax* heatshock metalloprotease (PVHSP28) revealed it to be optimally active 37°C and pH 7.6 and belongs to zinc metalloprotease, thus providing a new insight into identification of a new drug target.

Cholera: Mapping of various genomic loci of the resurgent strain O139 isolated post 0139 Bengal episode revealed three copies of the CTX genetic element as compared to one copy of toxic gene cascade in O139 Bengal isolates.

Japanese Encephalitis: In a recently concluded multicentric study for developing diagnostics for JEV, an IgM Mac ELISA system has been developed for early detection of JEV infection. The system has been validated. Efforts are being made to provide the reagents to peripheral centres.

Helicobacter pylori: In a multicentric project, an ELISA system has been developed for detection of ulcerogenic strains of *H. pylori* for which validation is being undertaken. Well-characterised cultures have been maintained at different centres. Antibiotics/antimicrobial sensitivity profile of different strains and their genetic predisposition have been completed and results are being analysed.

Leprosy: An immunomodulator based on killed *Mycobacterium w* (Mw) as an adjunct to multi drug therapy for leprosy patients has been developed and transferred to M/s Cadila Pharmaceuticals, Ahmedabad. Registered as LEPROVAC, this immunomodulator is being supplied to various private hospitals and NGOs. Currently, it is being used as a therapeutic agent. Its use as an immunoprophylactic agent is being ascertained. Decoding of the samples revealed that it can be used also as immunoprophylactic agent.

Oncology: A laboratory for transgenic mice has been set up in CRI, Mumbai. Studies at MKU, Madurai, have already demonstrated that a diphyllin glycoside known as cleistanthin A, isolated from the tropical plant *Cleistanthus collinus* was effective for killing oral carcinoma cells. *In vivo* experiments in animals showed that it reduced tumor development and had low toxic effects.

Cholera: Several tomato plants have been transformed with ctx B (cholera toxin gene) driven by fruit specific E8 promoter have been obtained by the scientists. Immunogenicity of the protein expressed in plants has been studied in mice.

Rabies: Glycoprotein G gene obtained from Indian wild strain of rabies virus has been expressed in cabbages at CIMAP, Lucknow.

HUMAN GENETICS AND GENOME ANALYSIS

Sixteen genetic diagnosis cum counselling units have provided services to 13,845 families for major genetic disorders. Molecular Genetics of Eye Diseases programme implemented at L.V. Prasad Eye Institute (LVPEI), Hyderabad resulted in identifying four disease causing mutations (two novel mutations) and six polymorphisms (one novel). Functional Genomics programme on functional genomics initiated in 1998 at CBT, Delhi, developed powerful computational capability for handling large scale human genome sequence data. Human Genome Diversity research group at ISI, IICB and SINP, Kolkata revealed that the ethnic population expansion took place about 50,000 years ago. The mtDNA RFLP haplotype data have shown that only two haplotypes are shared in high frequencies across the Indian populations.

A National Bioethics Committee prepares bioethics policy and guidelines for human genetics and genome analysis, to consider/monitor programmes on 'Gene Therapy' research in the country and to take up the issues related to the universal declaration on human genome and human rights and liaison with the International Bioethics Committee of UNESCO. A draft policy for research and services relating to human genome and genetic programmes is being processed for approval.

NATIONAL JAI VIGYAN S AND T MISSION ON NEW GENERATION VACCINES

The major objectives of this programme are to study the efficacy of DNA, recombinant/peptide vaccines for various diseases:

Cholera: Preparations for phase II and III clinical trials of the recombinant oral cholera vaccine based on VA1.3 strain of V.cholera have been initiated.

Rabies: Plasmid DNA vaccine scale-up protocols to achieve high cell yields, have been standardised both at IISc, Bangalore and Indian Immunologicals, Hyderabad. The efficacy trials in dogs, cattle and buffaloes have been completed.

Japanese Encephalitis: Efforts are being made to develop new vaccines for JEV which includes tissue cultured inactivated vaccine, DNA vaccine and synthetic peptide vaccine by groups at NII, New Delhi and NIV, Pune respectively.

Malaria: Work pertaining to purification and characterisation of MSP-I of *P.falciparum* has been accomplished, which can now be produced in a large

quantity. Process parameters have also been standardised for *P.vivax* and *P.cynomolgi*.

Tuberculosis: The University of Delhi is exploring three DNA candidate protective antigens, i.e., ESAT-6, a-crystalline and superoxide dismutase of *M.tuberculosis*. Scientists at IISc, Bangalore are screening two novel proteins from *M.tuberculosis* for human T cell response.

HIV: A clone of gag protease for HIV subtype C isolate has been expressed in mammalian expression vector pJW4304. The immunization in relation to gag proteins has yielded satisfactory results in animals.

TRANSFER OF BIO-MEDICAL TECHNOLOGIES

A number of prototype diagnostics for major communicable and non-communicable diseases have been validated by single/multi-centric trials. Several rounds of interactions between scientists, industries and officials have been organised and a number of assay systems/kits have been transferred to industry. Test systems for monitoring reproductive hormones have been developed at the Institute for Research in Reproduction, Mumbai. This package of technology has been transferred to M/s Zydus Cadila Health Care, Ahmedabad. The IgM Mac ELISA for the detection of dengue and Japanese Encephalitis have been developed by National Institute of Virology, Pune, and transferred to M/s Zydus Cadila Health Care, Ahmedabad. A test system to measure alpha-feto protein levels in pregnant women useful to detect certain genetic disorders has been transferred to M/s Shantha Biotechnics Limited, Hyderabad. An IgM based system for detection of Hepatitis A virus using monoclonal/polyclonal antibodies, developed by NIV, Pune has been transferred to M/s Bharat Biotech, Hyderabad. The industry has shown interest in other test systems also, i.e., DAT for Toxoplasmosis, LDH based ELISA for Malaria and reagents for thyroid and steroid hormones. An exercise for validation of PCR system developed by six independent groups for tuberculosis has been completed and four systems have yielded promising results. A technology utilising *Yarrowia lipolytica* expressing Hepatitis B surface and pre S genes has been transferred to M/s Biological E for further development and commercialization of recombinant hepatitis B vaccine.

FOOD BIOTECHNOLOGY

Efforts are under way for commissioning of pilot plants for large scale production of low cost nutrient food supplements developed through biotechnological processes. Several leads were obtained for rapid diagnosis of various food-borne pathogens like *Salmonella* sp. *Bacillus cereus*, *Shigella* sp. and *Rotavirus*. A lead has been obtained for prevention of Rotavirus diarrhoea in children below two years of age, by use of Rota colostium as a baby food supplement. Various tribal mushroom species have been screened for their edibility. A rapid immunological diagnostic test is being developed for detection of argemone contamination in edible mustard oil. Efforts have been made for strengthening food biotechnology research and training at seven identified institutions in the country. Initiatives have been taken for modification of oils and fats using biotechnological approaches.

The Indian biosafety regulations require the recombinant DNA organisms and products thereof to be cleared from environmental and human health safety by the Genetic Engineering Approval Committee (GEAC) of the Ministry of Environment and Forests. The Department of Biotechnology as the scientific body is to provide support to GEAC. For this a Review Committee on Genetic Manipulation (RCGM) has been constituted. RCGM authorises institutions/organisations to establish Institutional Biosafety Committee (IBSC), where DBT has its nominee. All R&D work is overseen by the RCGM and report of such activities are sent to GEAC. For assessing the suitability of transgenic crops in Indian environment, RCGM has constituted a Monitoring-cum-Evaluation Committee (MEC) for on-site inspection of experimental plots.

Efforts have been made to construct transgenic microorganisms that code for bio-active therapeutic proteins. The first transgenic plant experiment in the field was started in 1995 when *Brassica juncea* plants containing Bar gene regulated with plant specific constitutive promoters and linked with *Barnase*, & *Barstar* genes regulated with floral tissue specific promoters were planted at Gurgaon under contained conditions. These studies were conducted to assess the extent of pollen escape. Subsequently, several experiments have been started in the field in different locations using transgenic mustard, cotton, tomato, tobacco, brinjal and potato. Several Indian institutes and organisations have claimed to develop transgenic plants, which are ready for green house/poly-house evaluation and some are ready for field evaluation as well.

Work on transgenic animals carried out in India is yet at rudimentary stage. Lab experiments have been conducted to produce transgenic mice containing growth hormone genes. Certain marker genes have also been utilised. Introducing genes that code for substances that produce luminescence produced glowing silkworms; this work only reinstated that these organisms are amenable to the strategy of genetic manipulation. Efforts have also been made to produce transgenic catfish, tilapia and Indian carps containing growth hormone genes; the objectives were to obtain transformants that mature fast. The research work is in progress.

INTELLECTUAL PROPERTY RIGHTS

The Biotechnology Patent Facilitating Cell (BPFC) serves to provide mechanism for a single window Patent facilitation for all the inventions arising from the DBT funded projects.

It organised National Roving Seminars on 'Patenting in Biotechnology', at Jaipur, Lucknow and Guwahati which were attended by more than 600 scientists. The BPFC also brought out two publications entitled 'Biotechnology Patent Facilitating Cell' and 'Patenting in Biotechnology - Patent Information on Internet'. So far BPFC has considered 13 new patent applications, including five patent applications from DBT projects in CSIR laboratories. Out of 61 patent applications received by the department, 30 patent applications are under different stages of processing.

PROGRAMMES FOR WOMEN AND RURAL DEVELOPMENT

About 20,000 women and rural masses were benefited through the projects in the areas of waste management, floriculture, sericulture, aquaculture, animal husbandry, cultivation of medicinally important herbs, value addition to horticultural produce, etc. Projects have also been supported to create awareness on genetic disorders and counselling the couples. Special programmes were supported for the rehabilitation of victims of natural disaster. One such programme was supported for the rehabilitation of earthquake victims of Rudraprayag, Chamoli in Uttaranchal. Projects for the rehabilitation of victims of Gujarat earthquake were also supported. Projects are also supported in an integrated manner wherein several technology packages have been taken up under one umbrella, under the Biovillage concept. A Biovillage programme at Mocha near Porbandar is in progress where a RO Plant of 15,000 liter per day capacity has been functioning. The wasteland plantation was irrigated with effluent of RO plant. *Salvadora* and *Atriplex*, unconventional crops have enthused people of project village. Seacoast, experiments to cultivate algae like *Gelidiella* and *Gracilaria* (Agar bearing seaweeds) met with great success. Two training programmes for 30 farmers were organised at Gujarat Agriculture University, Junagarh campus. At Chennai a women's biotechnology park set up for professionally qualified women for starting their enterprises has been successful. Here 20 industrial modules have come up. Some herbal products and biopesticides have already got export orders. Many women entrepreneurs are joining the park.

BIOTECHNOLOGY-BASED PROGRAMMES FOR SC AND ST

Universities, national laboratories, State government institutions, *Krishi Vigyan Kendras*, NGOs and voluntary organisations are implementing the programmes for increasing the skill and income of the SC/ST population. About 50 projects including 20 new projects have been pursued in 18 States/Union Territories. The projects have covered areas of aromatic and medicinal plants, mushroom cultivation, biological control of plant pests and diseases, vermi-culture and vermi-composting, aquaculture, poultry farming, and human health improvement.

PROJECTS FOR REHABILITATION OF EARTHQUAKE AFFECTED PEOPLE

Biotechnology-based projects for rehabilitation of earthquake affected people of Gujarat have been implemented. The programmes have been identified based on the experience for rehabilitating the victims in Latur (Maharashtra) and Chamoli (Uttaranchal). These low cost technologies include spirulina cultivation, poly-house farming, bio-control agent production, vermi-composting, low cost food supplement for children, animal feed and health care programmes.

INTERNATIONAL COLLABORATION

The ongoing bilateral programmes with Germany, Israel, Sri Lanka, Switzerland, Sweden, UK and USA have progressed well. New programmes are being developed with these countries and other countries including Egypt, France, Japan, Khazakistan, Poland, Russia and Tunisia. Interactions have been made

with Australia, Brazil, Hungary, Mexico, Norway, Romania, Slovenia and Belarus. A Joint Centre for Biotechnology is being set up under Indo-Russia collaboration. Under Indo-US collaboration on Contraceptive and Reproductive Health Research, eight new projects are being implemented and another 10 projects have been recommended. A joint agreement for cooperation in biotechnology was signed with Germany on 15 February 2001 at Julich, Germany. Multilateral programmes continued among SAARC and ASEAN countries.

INSTITUTIONS DEVOTED TO BIOTECHNOLOGY

National Institute of Immunology (NII), New Delhi : The Institute follows a two-pronged strategy of linking excellence in fundamental research with the pragmatic pursuit of application possibilities in entrepreneurial partnerships. The major areas of research are: Immunity and Infection, Gene Regulation, Molecular Design, Reproduction and Development. The research has resulted in patenting of several innovations in USA and India. One Australian, two American and one Canadian patents were granted. Over 150 research papers have been published on gene regulation, molecular mimicry, reproduction and development as well as immunity and infection. A biosafety level-3 facility has been established at NII.

National Centre for Cell Science, Pune : The National Centre for Cell Science has been functional in three important areas: (i) as a national repository of animal cell cultures; (ii) in extending infrastructural facilities to researchers; and (iii) in carrying out research in the area of cell sciences. Technologies have been developed and transferred to industry for epitheliation for grafting to burns, vitiligo and nonhealing ulcer cases and cryopreservation and revival of bone marrow cells transplantation. An experimental model for wound healing has been developed and changes in expression of cell molecules have been studied. A new gene was identified from mouse cloudman melanoma clone, which includes tumor *in vivo*.

National Brain Research Centre, New Delhi : The Centre has undertaken a basic research to understand brain function in disease and normal conditions. The networking would involve forming new linkages between various laboratories working in the field of neuroscience. The Centre has organised training programmes, a networking and an international colloquium successfully. International arrangements have been made for research cooperation and training with USA and Japan. An agreement has been signed with USUHS for cooperation in traditional medicine.

National Centre for Plant Genomic Research : This is an autonomous institute established at Jawaharlal Nehru University campus, New Delhi. The Centre works in core research area of plant genomics covering structural, functional and application components of genomics. Chickpea (*Cicer aritinem*) an important pulse has been identified for detailed genomic studies by the Centre. The Centre has introduced AmA1, a seed albumin protein gene of Amaranth, in potato and transferred this transgenic potato material to Central Potato Research Institute, Simla for further evaluation/field testing. The

AmA1 gene has also been transferred in fission yeast *Schizosaccharomyces pombe*.

Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad : The Centre received 155 cases comprising of paternity disputes, identification, rape, murder and other crimes. MoU have been entered with two State Forensic Laboratories. For DNA diagnosis of various genetic disorders, the Centre received 409 cases and 129 cases for chromosomal diagnosis. The bioinformatics facility is fully functional with several databases. Fundamental research has also been initiated to sequence the genome of silk worm and for molecular analysis of *Mycobacterium tuberculosis*.

National Bioresource Development Board, New Delhi : The National Bioresource Development Board (NBDB) has been established. A National Steering Committee has been constituted to support the activities of the Board. The objective of NBDB is sustainable utilization of biodiversity of the country. Work on the digitised inventory of medicinal, other important species, and marine resources taken up by the Board has already commenced, and proposals on inventories for animal and microbial resources have been initiated. Projects on conservation, inventorisation and enhancement of coastal bioresources and establishment of biotechnology park and the plant and microbial resources have been sanctioned. The establishment of Institute of Bioresources and Sustainable Development (IBSD) at Imphal has been approved.

8 Environment

IN the administrative structure of the Central Government, the Ministry of Environment and Forests is the nodal agency for planning, promotion, coordination and overseeing the implementation of the various environmental and forestry programmes. The Ministry has also been designated as the nodal agency in the country for the United Nations Environment Programme (UNEP), International Centre for Integrated Mountain Development (ICIMOD) and looks after the follow-up of the United Nations' Conference on Environment and Development (UNCED).

Conservation and survey of flora, fauna, forests and wildlife, prevention and control of pollution, afforestation and regeneration of degraded areas and protection of environment, are the mandates of the Ministry. These objectives are well supported by legislative and regulatory measures, aimed at the preservation and protection of the environment.

SURVEY OF NATURAL RESOURCES

The Botanical Survey of India (BSI), established in 1890, is responsible for surveying and identifying the plant resources of the country. With its headquarters at Kolkata and nine circle offices located in different regions of the country, the BSI undertakes exploration tours of the country regularly and the results of such tours are published in the form of national, state and district flora.

The Zoological Survey of India (ZSI), established in 1916, is responsible for carrying out survey and inventorisation of the faunal resources of the country. While the headquarters of the Zoological Survey of India is at Kolkata, it has 16 regional stations located in different parts of the country. ZSI also undertakes regular faunistic survey tours of the entire country.

The Forest Survey of India (FSI) established in 1981, is entrusted with the task of surveying the forest resources of the country. Besides the headquarters at Dehra Dun, FSI has four regional offices located at Bangalore, Kolkata, Nagpur and Shimla. It prepares thematic maps on 1:50,000 scale and forest vegetation maps on 1:2,50,000 scale of the country. The maps are prepared for the entire country on a ten-year cycle. The vegetation maps are prepared on a two-year cycle for the entire country. As per the State of Forest Report 1999, the total forest cover of the country has been estimated to be 63.73 million hectares, *i.e.*, 19.39 per cent of the geographic area of the country.

BIOSPHERE RESERVES

Biosphere Reserves are multi-purpose protected areas to preserve the genetic diversity in representative eco-systems. The major objectives of biosphere reserves are: (i) to conserve diversity and integrity of plants, animals and micro-organisms; (ii) to promote research on ecological conservation and other

environmental aspects and; (iii) to provide facilities for education, awareness and training. So far twelve biosphere reserves have been set up. They are: Nilgiri; Nanda Devi; Nokrek; Great Nicobar; Gulf of Mannar; Manas; Sunderbans; Similipal; Dibru Daikhowa; Dehong Deband; Pachmarhi; and Kanchanjanga.

WETLANDS, MANGROVES AND CORAL REEFS

India has a wealth of wetland eco-systems distributed in different geographical regions from the cold arid zone of Ladakh in the North to the wet humid climate of Imphal in the East, the warm arid zone of Rajasthan in the West to the tropical monosonic Central India and the wet and humid zone of Southern Peninsula. Most of the wetlands in India are directly or indirectly linked with major river systems such as Ganga, Brahmaputra, Narmada, Tapti, Godavari, Krishna, Cauveri, etc.

A programme on conservation of wetlands is being implemented by the Ministry since 1987 and a total number of 20 wetlands in 13 States are covered under this programme. Several initiatives have been taken up with the main focus on biological methods of conservation rather than adopting engineering options. Steering Committees have been set up by the concerned State Governments and nodal research/academic institutions have been identified for the selected wetlands. Management Action Plans prepared for 18 wetlands are in operation and two Action Plans for wetlands from Kerala have been finalised. A directory on wetlands in India already published gives information on location, area and ecological categorisation of wetlands. India is a signatory to the Convention on Wetlands of international importance, especially as Waterfowl Habitat (Ramsar Convention)

Mangroves are salt-tolerant forest ecosystems found mainly in the tropical and sub-tropical inter-tidal regions of the world. They are reservoirs of a large number of plant and animal species associated together over a long evolutionary period and exhibiting remarkable capacity for salt tolerance. They stabilize the shoreline and act as a bulwark against encroachments by the sea. India harbours some of the best mangroves in the world and these occur all along the Indian coastline in sheltered estuary, tidal creeks, backwaters, salt marshes and mud flats. As per the State of Forest Report, 1997 the total area covered by mangroves in India is estimated at about 6,000 sq km.

Under the scheme on Conservation and Management of Mangroves, 15 mangrove areas have been identified for intensive conservation and management purposes: North Andaman and Nicobar (Andaman and Nicobar Islands), Sunderbans (West Bengal), Bhitarkanika (Orissa), Coringa, Godavari Delta and Krishna Estuary (Andhra Pradesh), Mahanadi Delta (Orissa), Pitchavaram and Point Calimer (Tamil Nadu), Goa (Goa), Gulf of Kutch (Gujarat), Coondapur (Karnataka), Achra/Ratnagiri (Maharashtra) and Vembanad (Kerala).

Coral reefs are shallow-water tropical marine ecosystems, characterised

by high biomass production and rich floral and faunal diversity. Four coral reefs, namely, Gulf of Mannar, Andaman and Nicobar Islands, Lakshadweep Islands and Gulf of Kutch have been identified for conservation and management. State-level steering committees have been constituted for the formulation and implementation of management action plans.

BIODIVERSITY

Biological diversity has direct consumptive value in food, agriculture, medicine and industry. It also maintains ecological balance and continues evolutionary process. The indirect eco-system services provided through biodiversity are photosynthesis, pollination, transpiration, chemical cycling, nutrient cycling, soil maintenance, climate regulation, air, water, system management, waste treatment and pest control.

India is one of the twelve mega-biodiversity countries of the world and became a party to the International Convention on Biological Diversity in May 1994. The objectives of the Convention on Biological Diversity (CBD), to be pursued in accordance with its relevant provisions are: the conservation of Biological Diversity; the sustainable use of its component; and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

Following this a National Policy and Action Strategy on Biodiversity, which seeks to consolidate the on-going efforts of conservation and sustainable use of biological diversity and to establish a policy and programme regime for the purpose, was released by the Ministry on 6 January 2000. The Bio-Diversity Bill 2000 introduced in the Parliament in May 2000, has been referred to the department related Parliamentary Standing Committee for examination and report.

FORESTS

Forests are a renewable source and contribute substantially to economic development. They play a major role in enhancing the quality of environment. The total forest cover which includes dense forest, open forest and mangrove is estimated to be 63.73 million hectares. This constitutes 19.39 per cent of country's geographic area. Out of this, the dense forest accounts to 11.48 per cent, open forest represents 7.76 per cent while mangrove forest 0.15 per cent and scrub area 1.58 per cent. There has been an increase of 3,896 sq km of forest cover between 1997 and 1999 assessment.

FOREST POLICY AND LAW

India is one of the few countries, which has had a forest policy since 1894. It was revised in 1952 and again in 1988. The main plank of the forest policy is protection, conservation and development of forest. Its aims are : (i) maintenance of environmental stability through preservation and restoration of ecological balance; (ii) conservation of natural heritage; (iii) check on soil erosion and denudation in catchment area of rivers, lakes and reservoirs; (iv) check on extension of sand dunes in desert areas of Rajasthan and along

coastal tracts; (v) substantial increase in forest tree cover through massive afforestation and social forestry programmes; (vi) steps to meet requirements of fuelwood, fodder, minor forest produce and soil timber of rural and tribal populations; (vii) increase in productivity of forest to meet the national needs; (viii) encouragement of efficient utilisation of forest produce and optimum substitution of wood and; (ix) steps to create massive people's movement with involvement of women to achieve the objectives and minimise pressure on existing forests.

A National Forestry Action Programme (NFAP) has also been formulated and released as a comprehensive strategic long term plan for the next 20 years. The objective of the NFAP is to bring one-third of the area of the country under tree/forest cover and to arrest deforestation.

Under the provisions of the Forest (Conservation) Act, 1980, prior approval of the Central Government is required for diversion of forest lands for non-forest purposes. The Regional Chief Conservators of Forests are empowered to decide cases on diversion of forestland for non-forestry purposes up to the extent of five ha. except mining and regularisation of encroachment. They have also been empowered to examine cases involving forestland from five ha. to 20 ha. in consultation with the State Advisory Group.

In 1990, the Ministry issued guidelines to involve the village communities in the development and protection of degraded forests on the basis of their taking a share of the usufruct from such areas. The concept of Joint Forest Management (JFM) was accordingly initiated. Twenty six States have so far issued resolutions for JFM. As on 1 September 2000, 10.25 million ha. of forest land in the country is being managed and protected by 36,165 village forest protection committees.

In pursuit of the National Forests Policy, 1998, the 100 per cent Centrally-sponsored scheme, namely, "Association of Scheduled Tribe and Rural Poor in Regeneration of Degraded Forests on Usufruct Sharing Basis" was continued to involve the local people in rehabilitation of degraded forests in tribal-dominant areas. The scheme aiming at providing wage-employment and usufructs to the tribal people, is being implemented in various States.

FOREST FIRE CONTROL

The Centrally-sponsored scheme, namely, 'Introduction of Modern Forest Fire Control Methods' continued to be implemented with these objectives: (i) to control forest fires with a view to protecting and conserving both natural and man-made forests and to improve the productivity of forests by reducing the incidents and extent of forest fire; and (ii) to devise, test and demonstrate principles and techniques for prevention, detection and suppression of forest fires.

The scheme being implemented in eleven states is proposed to be extended to all the States. A National Master Plan has been prepared for the

scheme for the Tenth Five Year Plan period and modified and renamed as "Forest Fire Control and Management".

WILDLIFE

The National Wildlife Action Plan provides the framework of strategy as well as programme for conservation of wildlife. The Indian Board of Wildlife, headed by the Prime Minister, is the apex advisory body overseeing and guiding the implementation of various schemes for wildlife conservation. At present, the protected area network comprises of 88 national parks and 490 sanctuaries covering an area of 1.53 lakh sq km. The Wildlife (Protection) Act, 1972 adopted by all states except Jammu and Kashmir (which has its own Act), governs wildlife conservation and protection of endangered species. The Act prohibits trade in rare and endangered species. An Inter-State Committee has been set up to review the Wildlife (Protection) Act, 1972 and other laws. India is a signatory to the Convention on International Trade in Endangered Species (CITES) of wild flora and fauna. Under this, export or import of endangered species and their products are governed by the conditions and stipulations laid down therein. India is also a signatory to the Memorandum of Understanding concerning the conservation of Siberian Cranes. The Ministry provides financial and technical assistance to states for development and improved management of national parks; protection of wildlife and control of poaching and illegal trade in wildlife products; eco-development in areas around national parks and sanctuaries; conservation of elephant and its habitat; and conservation of rhinos in Assam.

Under Project Tiger, launched on 1 April 1973, 27 Tiger Reserves have been set up in 14 states covering an area of about 37,761 sq km. Financial assistance is provided for voluntary relocation of tribal families from the Protected Areas.

Under the Project Elephant, states having free-ranging population of wild elephants are being given financial as well as technical and scientific assistance to ensure long-term survival of identified viable populations of elephants in their natural habitats. A Central Zoo Authority has been set up to look after the management of zoological parks in the country. It coordinates the activities of over 200 existing zoos and also supervises the exchange of animals on a scientific basis. A national policy on zoos prepared by the Authority provides appropriate directions to the Government and other zoo operators.

Indian Board for Wildlife (IBWL) an apex advisory body in the field of wildlife conservation in the country is headed by the Prime Minister. As per the recommendation of IBWL, a committee is being set up to prepare a revised guideline for wildlife research.

ENVIRONMENT IMPACT ASSESSMENT

The programme of Environment Impact Assessment (EIA) was introduced in India in 1978. A notification issued in January 1994 makes EIA statutory for

29 categories of developmental projects under various sectors such as industrial, mining, irrigation, power, transport, tourism, communication, etc. The EIA Notification was amended in 1997 in order to make public hearing an integral part of the assessment procedure. Environmental clearance is granted by the Impact Assessment Agency in the Ministry. This power has been delegated to the State Governments in the case of co-generation power plants of any capacity, gas/naptha-based and coal-based power plants with fluidized bed technology of up to 500 MW capacity and conventional coal-based power plants of up to 250 MW capacity, except when located within 25 km of boundary of the reserved forests, biosphere reserves and critically polluted areas or within 50 km of inter-State boundary. In the case of projects within the existing port limits except areas classified as CRZ-I, the power to get clearance under the Coastal Regulation Zone Notification has been delegated to the Ministry of Surface Transport.

The Ministry has also issued an amendment to CRZ Notification, 1991 permitting receipt, storage and regasification of Liquid Natural Gas in CRZ areas, excepting those classified as CRZ-I(I). Besides, exploration and extraction of oil and natural gas along with all associated activities and facilities are also permitted in the CRZ through this amendment.

Special groups/committees and task forces are constituted as and when needed for expert inputs on major projects. After detailed scrutiny and assessment, the appraisal committee makes its recommendations for approval or rejection of the project. To ensure transparency, the position of forest and environmental clearance has been brought out on website: <http://envfor.nic.in> since February 1999. Depending on the nature of the project, certain safeguards are recommended. For monitoring and timely implementation of safeguards suggested, six regional offices of the Ministry have been set up at Shillong, Bhubaneswar, Chandigarh, Bangalore, Lucknow and Bhopal.

The Ministry has amended the EIA Notification on 13 December 2000, exempting defence-related road construction projects in border areas from the purview of the EIA Notification. A draft notification, exempting from public hearing, small scale industrial units, widening and strengthening of highways, modernisation of irrigation projects and mining projects (major minerals) up to 25 ha. of lease area was issued on 3 January 2001 by the Ministry.

PREVENTION AND CONTROL OF POLLUTION

The Policy Statement on Abatement of Pollution, adopted in 1992, provides instruments in the form of legislation and regulation, fiscal incentives, voluntary agreements, educational programmes and information campaigns to prevent and control pollution of water, air and land. Since the adoption of the policy statement, the focus of activities has been on issues such as promotion of clean and low waste technologies, waste water minimisation, reuse/recycling, improvement of water quality, environment audit, natural resource accounting, development of mass-based standards, institutional and human resource development, etc. The whole issue of pollution prevention

and control is dealt with by a combination of command and control methods as well as voluntary regulations, fiscal measures, promotion of awareness and involvement of public.

An "Eco-mark" label has been introduced to label consumer products that are environment-friendly. So far, the Ministry has issued 18 notifications on different products criteria.

To facilitate industries in preparing environmental statements, sector-specific environmental audit manuals have been prepared.

Under the scheme for adoption of clean technology in small-scale industries and for extending necessary technical support, training and awareness programmes for personnel in Small Industry Development Organisation and for entrepreneurs are being organised. Waste Minimisation Circles (WMCs) are being established to promote group efforts in increasing productivity and improving the environmental conditions in small and medium scale industries through adoption of waste minimisation techniques. Forty-five WMCs have been established so far in different industrial clusters across the country.

Action Plans to control pollution for various major cities have been prepared and are being implemented by the concerned State Governments.

A major programme for improvement of automotive fuels such as motor gasoline and diesel is being introduced in the country in a phased manner. Only unleaded petrol is supplied in all outlets of the entire country with effect from 1 February 2000 and 0.25 per cent sulphur in diesel with effect from 1 January 2000 respectively. Petrol with 0.05 per cent sulphur maximum is being supplied in the National Capital Region (NCR) of Delhi with effect from 31 May 2000 and diesel with 0.05 per cent sulphur maximum is being supplied in the selective retail outlets in the NCR of Delhi from 1 April 2000. The Ministry of Road Transport and Highways (MORTSH) has notified rules relating to the registration of non-commercial four-wheeled petrol and diesel driven vehicles in the National Capital Region to confirm India-2000 emission standards akin to Euro-I emission standards effective on and from 1 June 1999 as these standards are effective from 1 April 2000 in the entire country for all types of vehicles. The MORTSH has also notified more stringent emission standards known as Bharat Stage -II similar to Euro-II emission standards for registration of motor cars and four-wheeler passenger vehicles with Gross Vehicle Weight (GVW) equal or less than 3,500 kg, which shall conform to Euro-II emission norms by 1 April 2000 in the National Capital Region.

Compressed Natural Gas (CNG) as cleaner auto fuel has been introduced in Mumbai, Delhi, Baroda and Surat. The Central Government has also provided indirect fiscal incentives in the form of concessional customs duty on the import of CNG kits and its parts.

CENTRAL POLLUTION CONTROL BOARD

The Central Pollution Control Board (CPCB) is the national apex body for

assessment, monitoring and control of water and air pollution. The executive responsibilities for enforcement of the Acts for Prevention and Control of Pollution of Water (1974) and Air (1981) and also of the Water (Cess) Act, 1977 are carried out through the Board. The CPCB advises the Central Government on all matters concerning the prevention and control of air, water and noise pollution and provides technical services to the Ministry for implementing the provisions of the Environment (Protection) Act, 1986. Under this Act, effluent and emission standards in respect of various categories of industries have been notified. During 2000-2001 standards for coal mines, standards for effluents from textile industries and primary water quality criteria for bathing waters have been finalised and notified in the gazette.

Seventeen categories of heavily polluting industries have been identified. They are : cement, thermal power plant, distilleries, sugar, fertilizer, integrated iron and steel, oil refineries, pulp and paper, petrochemicals, pesticides, tanneries, basic drugs and pharmaceuticals, dye and dye intermediates, caustic soda, zinc smelter, copper smelter and aluminium smelter. Out of a total of 1,551 units identified so far under these categories, 1,326 units have installed adequate facilities for pollution control, 172 units have been closed down and remaining 53 units are defaulters.

The Central Pollution Control Board (CPCB), in consultation with State Pollution Control Boards (SPCB), has identified 24 critically polluted areas in the country which need special attention for control of pollution. These are: Vapi (Gujarat), Singrauli (Uttar Pradesh), Korba (Chhattisgarh), Ratlam, Nagda (Madhya Pradesh), Digboi (Assam), Talcher (Orissa), Bhadravati (Karnataka), Howrah (West Bengal), Dhanbad (Jharkhand), Pali and Jodhpur (Rajasthan), Manali and North Arcot (Tamil Nadu), Visakhapatnam and Patancheru (Andhra Pradesh), Chembur (Maharashtra), Najafgarh (Delhi), Govindgarh (Punjab), Udyog Mandal (Kerala) and Parwanoo and Kala Amb (Himachal Pradesh). Actions Plans have been prepared and are being implemented in these areas.

The CPCB in collaboration with the SPCBs monitors the quality of fresh water resources of the country through a network of 507 monitoring stations located all over the country. Of these, 414 stations are on rivers, 35 on lakes, 25 on ground water and 30 are situated on other water bodies like canals, creeks and drains.

Under the National Ambient Air Quality Monitoring Programme, 290 stations covering over 90 cities/towns are being monitored by the CPCB.

MANAGEMENT OF HAZARDOUS SUBSTANCES

The Ministry of Environment and Forests is the nodal agency for the management and control of hazardous substances, which include hazardous chemicals, waste and micro-organisms. The following rules have been notified under the Environment (Protection) Act, 1986: (i) Manufacture, Storage and Import of Hazardous Chemicals, 1989; (ii) Hazardous Wastes (Management and Handling) Rules, 1989; and (iii) Manufacture, Use, Import, Export and

Storage of Hazardous Micro-organisms/Genetically Engineered Organisms or Cell, 1989 and (iv) Biomedical Waste Rules, 1998. Amendments to the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, amended in 1994, were notified on 20 January 2000.

A central control room has been set up in the Ministry to deal with emergencies arising from hazardous chemicals and a Crisis Alert System has been established. Guidelines for preparation of crisis management plans have been issued to the State Governments and financial support is being provided to them to strengthen infrastructure for the purpose. Emergency Response Centres have been set up at Bhopal, Baroda, Manali and Khapali. The Red Book entitled "Central Crisis Group Alert System" which includes names, addresses and telephone numbers of the Central and state authorities and experts to be contacted in case of emergency, has been published and circulated.

India is a signatory to the UNEP-sponsored Convention on Control of Transboundary Movement of Hazardous Wastes, which was adopted at Basel, Switzerland, by 126 governments of the world in 1989. The Convention aims at checking the reported illegal traffic in hazardous wastes from one country to another. India participated in the sixteenth technical and first legal Working Group meeting of the Fifth Conference of Parties (COP) of the Basel Convention held in Geneva in October 2000. India also participated in the fourth and fifth Inter-Governmental Negotiating Committee (INC) meetings on Persistent Organic Pollutants (POPs) in 2000.

Municipal Solid Wastes (Management and Handling) Rules, were finalized based on the comments and suggestions from the public and notified on 25 September 2000. A draft notification of 25 May 2000 entitled 'Lead Acid Batteries (Management & Handling) Rules, 1999' was issued seeking objections/suggestions from the public. The status of implementation of Hazardous Waste Rules is continuously monitored. As on 13 May 2000 there were 13,011 hazardous waste-generating units in 373 districts in the country. They generate over 4.40 million tonnes of waste, of which, 1.68 million tonnes are recyclable, 0.19 million tonnes are incinerable and 2.52 million tonnes are disposed on lands.

NATIONAL RIVER CONSERVATION DIRECTORATE

The activities of Ganga Action Plan (GAP) Phase-I, initiated in 1985, were declared closed on 31 March 2000. The Steering Committee of the National River Conservation Authority (NRCA) reviewed the progress of the GAP and other on-going schemes relating to river cleaning. Out of the 261 schemes of pollution abatement under GAP Phase-I, 258 schemes have been completed and the remaining are scheduled to be completed by 30 September 2001.

The Ganga Action Plan (GAP), Phase-II, has been merged with the National River Conservation Plan (NRCP). The expanded NRCP now covers 149 towns located along 27 inter-state rivers in 16 states. Under this Action Plan, pollution abatement works are being taken up in 29 towns. A total of 41 schemes of pollution abatement have been sanctioned. So far five schemes

have been completed under this action plan. About 618 MLD of sewage is targeted to be intercepted, diverted and treated.

Under Gomti Action Plan, pollution abatement works are being taken up along the Gomti river in Lucknow, Sultanpur and Jaunpur in Uttar Pradesh. About 269 MLD of sewage is targeted to be intercepted, diverted and treated under this action plan. Under the National River Conservation Plan (NRCP) pollution abatement works are being taken up in 46 towns of Andhra Pradesh, Jharkhand, Gujarat, Karnataka, Maharashtra, Uttar Pradesh, Orissa, Punjab, Rajasthan and Tamil Nadu. Under this plan, 60 schemes have been completed, out of 181 schemes. The National Lake Conservation Plan (NLCP) was posed to different external agencies for funding. Terms of Reference of the project with the World Bank have been finalised and three wetlands, namely, Ropar, Kanjli and Harike from Punjab and two wetlands, namely, Sambhar and Udaipur Lake Complex from Rajasthan have been specifically identified for undertaking conservation programme.

NATIONAL AFFORESTATION AND ECO-DEVELOPMENT BOARD

The National Afforestation and Eco-Development Board (NAEB) constituted in 1992 was given the task of promoting afforestation, tree plantation, ecological restoration and eco-development activities in the country with special attention to degraded forest areas and lands adjoining the forest areas, national parks, sanctuaries and other protected areas, as well as the ecologically fragile areas like the Western Himalayas, Aravallis, Western Ghats, etc. The NAEB seeks to carry out its responsibilities through several schemes such as the Integrated Afforestation and Eco-Development Projects, area-oriented fuelwood and fodder projects, non-timber forest produce (including medicinal plants) scheme, aerial seeding, seed development, technology extension, grants-in-aid to voluntary agencies, etc.

The NAEB has evolved specific schemes to promote afforestation and management strategies, which help the states in developing specific afforestation and eco-development packages for augmenting bio-mass production through a participatory planning process of Joint Forest Management (JFM). From 2000-01 under IAEPs the approach of *Samanvit Gram Vanikaran Samridhhi Yojana* (SGVSY) and creation of Forest Development Agency (FDA) is being implemented on pilot basis to establish convergence in flow of funds under the various schemes for development of rural areas.

Two major programmes, namely, Coastal Shelterbelt Plantation Programme (CSPP) for afforesting coastal areas in the country with suitable tree species to form shelterbelts and bamboo and medicinal plantation project have been taken up by the NAEB as thrust areas identified by the Ministry.

The NAEB has seven Regional Centres located at different universities and national-level institutions of the country.

RESEARCH PROMOTION

Under the scheme of Research and Development, research projects are

supported through the three programmes: (a) Environment Research Programme; (b) Eco-system Research Scheme; and (c) Action-oriented Research Programme for Eastern and Western Ghats. While Environmental Research Programme covers chemical, bio-chemical and engineering investigations, technology development, waste recycling, resource recovery, etc., the eco-system research scheme falls under the broad areas of conservation, management, ecological effects, and impacts of human activities on biosphere, climate change and inter-relationship between man and biological resources. The Eastern and Western Ghats Research Programme addresses itself to location-specific problems of resource management in the Eastern and Western Ghat regions of the country. During the year 21 thrust areas have been identified under various schemes of research and development.

During 2000-01, 21 new projects were initiated, 30 studies were completed and 59 on-going projects were reviewed and monitored for their progress.

GB PANT INSTITUTE OF HIMALAYAN ENVIRONMENT AND DEVELOPMENT

The GB Pant Institute of Himalayan Environment and Development, Almora (Uttaranchal) established in 1988 is an autonomous organisation of the Ministry of Environment and Forests for developing strategies, technologies and knowledge base for ecologically sound development of the Himalayan region. Besides undertaking action-oriented research projects, the Institute has also installed three weather-monitoring stations for collecting and analysing climatic data of the Himalayan region. The Institute has units in Sikkim, Nagaland and Himachal Pradesh.

The Institute has prepared guidelines in three important areas concerning the Indian Himalayan Region (IHR) which include guidelines for Road Sector in the IHR (Green Roads Concept) rain water Harvesting for Irrigation and Domestic use, and Location Planning and Site Selection for Residential Buildings, Tourist/Commercial Complexes in Hill Towns.

FORESTRY RESEARCH

Forestry research is the primary responsibility of the Indian Council of Forestry Research and Education located at Dehra Dun. The following forestry research institutes and centres under the Council are responsible for undertaking research in their respective eco-climatic zones: (i) Forest Research Institute, Dehra Dun; (ii) Institute of Arid Zone Forestry Research, Jodhpur, (iii) Institute of Rain and Moist Deciduous Forests, Jorhat; (iv) Institute of Wood Sciences and Technology, Bangalore; (v) Tropical Forestry Research Institute, Jabalpur; (vi) Institute of Forest Genetics and Tree Breeding, Coimbatore; (vii) Temperate Forest Research Centre, Shimla; (viii) Centre for Forest Productivity, Ranchi; (ix) Institute of Social Forestry and Eco-rehabilitation, Allahabad; (x) Institute of Forestry Research and Human Resource Development, Chhindwara; and (xi) Advanced Centre for Bio-technology and Mangrove Forests, Hyderabad. In addition, the Indian Plywood Industries Research and Training Institute, Bangalore, an autonomous body of the Ministry is a premier institution

engaged in research and training activities on mechanical wood industries technology. The Indian Institute of Forest Management, Bhopal, an autonomous organisation of the Ministry, also undertakes education, training, research and consultancy in forest management.

WILDLIFE RESEARCH

Research programmes in wildlife are carried out by the Wildlife Institute of India, Dehradun, and the Salim Ali Centre for Ornithology and Natural History, Coimbatore. Several projects on habitat evolution, elephant movement, ecology of *gharials* and turtles, status of endangered species, behavioural ecology, bio-diversity, resource study conservation, ecology and management of specific animals, etc., are being carried out by both these Institutes.

NATIONAL NATURAL RESOURCES MANAGEMENT SYSTEM

The basic objective of the Natural Resources Management System (NNRMS) is the utilisation of Remote Sensing Technology with the conventional methods for optimal use and management of the natural resources of the country. A Standing Committee on Bio-resources and Environment advises the Ministry on various aspects relating to the implementation of this scheme. Specific research projects are also supported under this scheme. So far, the committee has identified 23 priority areas and recommended 62 projects under these areas. During the year 2000-01, 21 projects have been completed under this scheme.

EDUCATION, AWARENESS AND INFORMATION

Priority is accorded by the Ministry to promote environmental education, create environmental awareness among various age-groups and to disseminate information through Environmental Information System (ENVIS) network to all concerned. A major initiative to include environment education as a separate and compulsory subject in the education curricula has been taken by the Ministry at all levels of formal education, i.e., secondary, senior secondary and tertiary levels.

The Ministry also accords priority to the promotion of non-formal environmental education and creation of awareness among all sections of the society. It organises seminars/symposia/workshops, training programmes, eco-clubs, audio-visual shows, etc. A National Environmental Awareness Campaign (NEAC) is organised every year. "Keep our Environment Clean and Green" was the theme for the year 2001.

Seven Centres of Excellence have been set up by the Ministry to strengthen awareness, research and training in priority areas of Environmental Science and Management. These are: Centre for Ecological Sciences, Bangalore; Centre for Mining Environment, Dhanbad; Centre for Environmental Education, Ahmedabad; CPR Environmental Education Centre, Chennai, Salim Ali Centre for Ornithology and Natural History, Coimbatore, the Centre for Environmental Management of Degraded Ecosystems, Delhi, and the Tropical Botanical Garden and Research Institute, Thiruvananthapuram.

The National Museum of Natural History (NMNH) set up in New Delhi in 1978, is concerned with the promotion of non-formal education in the area of environment and conservation. Besides permanent exhibit galleries on various aspects of environment, the museum also conducts temporary exhibitions and a large number of educational programmes and activities for school children, college youth and the general public. Three Regional Museums of Natural History have been established at Mysore and Bhopal and one is under construction at Bhubaneswar.

The Indian Council for Forestry Research and Education is the focal point for forestry education and extension development in the country. The Indira Gandhi National Forest Academy, Dehra Dun, imparts in-service professional training to Indian Forest Service (IFS) professionals. The Forest Survey of India (FSI) organises training programmes for forestry personnel on various aspects such as application of remote sensing techniques in forestry, etc. State Forest Service colleges provide training to the officers of the State Forest Service (SFS). The Indian Plywood Industries Research and Training Institute, Bangalore, organises short-term courses in the area of wood science. The Indian Institute of Forest Management, Bhopal, also provides training in forest management and allied subjects to persons from the Indian Forest Service, forest development corporations, and forest-related industries to develop forestry programmes. The Wildlife Institute of India, Dehradun, provides in-service training to forest officers, wildlife ecologists and other professionals for conservation and management of the wildlife resources of the country.

ENVIRONMENTAL INFORMATION SYSTEM

An Environmental Information System (ENVIS) was set up by the Ministry of Environment and Forests in 1982 as a decentralised information network for collection, collation, storage, retrieval and dissemination of environmental information. Besides the Focal Point located in the Ministry, ENVIS network presently consists of 25 subject-oriented centres known as ENVIS Centres, set up in various institutions/organisations of the country in priority areas of environment. The Focal Point brings out a quarterly journal, *Paryavaran Abstracts*, containing information about environmental research in the Indian context.

The ENVIS has been designated as National Focal Point (NFP) and Regional Service Centre (RSC) for South Asia sub-regional countries by INFOTERRA (a global information system on environment) of United Nations Environment Programme (UNEP). The ENVIS network responded to 15,000 queries during 2000-2001 on areas of environmental concerns. ENVIS has also developed a Home-page of the Ministry which can be accessed at url: <http://envfor.nic.in/envis>. The ENVIS is publishing a bi-monthly newsletter *Enviro News*. The ENVIS has been entrusted with the responsibility of implementing the UNDP and IDRC-assisted project, "Sustainable Development Network Programme (SDNP)". A website for SDNP has been developed for accessing information by a wide cross-section of users at the url: <http://sdnp.delhi.nic.in>.

FELLOWSHIPS AND AWARDS

Instituted in 1987, the *Indira Gandhi Paryavaran Puraskar*, consisting of a cash component of rupees one lakh, a silver trophy and a citation, is awarded every year to an organisation and to an individual for significant contributions in the field of environment.

The *Indira Priyadarshini Vrikshamitra Awards* were constituted by the Ministry of Environment and Forests in 1986 to recognise outstanding contributions of individuals and organisations in the field of afforestation and wastelands development. Starting with 1993, 12 annual awards are given to individuals, educational institutions, panchayats, voluntary agencies, government agencies and the corporate sectors. Each award carries a medallion, a citation and a cash component of Rs 50,000.

The *Mahavriksha Puraskar*, instituted by the National Afforestation and Eco-development Board (NAEB) during 1993-94 is given every year to individuals/organisations for trees of notified species having the largest girth and height and in good health and vigour. The award consists of a cash prize of Rs 25,000, a plaque and a citation.

Rajiv Gandhi Environment Award for Clean Technology instituted in 1993, is given to industrial units that have made significant and measurable contributions towards development of clean technologies and innovative solutions to environmental problems created by industrial operations.

With the objective of encouraging original and applied research among Group 'A' scientists in the Ministry and its associated offices and autonomous bodies, *Paryavaran Evam Van Mantralaya Vishisht Vaigyanik Puraskar* was instituted in 1992-93. The scheme provides every year for two awards worth Rs 20,000 each.

The *Pitambar Pant National Environment Fellowship Award* instituted in 1978, is awarded annually to recognise, encourage and support excellence in any branch of research related to environmental science.

In recognition of the Bishnoi community's contribution to nature conservation and to encourage studies on desert ecology, the Ministry has instituted a Desert Ecology Fellowship at the University of Jodhpur.

Instituted in 1995, the *B.P. Pal National Environment Fellowship Award* for Biodiversity is in recognition of significantly important research and development contributions and is intended to encourage talented individuals to devote themselves whole time to R&D pursuits in the field of bio-diversity.

The *Rajiv Gandhi National Wildlife Conservation Award* and *Salim Ali/Kailash Sankhla Fellowships* were instituted by the Ministry for recognising eminent officers and field workers for exemplary work in the field of Wildlife Conservation and Research.

National award for protection of pollution is an award to be given every year to the industries and operations which make a significant and measurable

contribution towards development or use of clean technologies, product or practices that prevent pollution and finding innovative solutions to the environmental problems. Awards, numbering up to eighteen, are given each year, one each for the identified category of highly polluting industries and five to the small scale industries.

The Ministry has approved institution of *Amritadevi Wildlife Protection Award* in the name of Amritadevi Bishnoi to the village communities for showing valour and courage for protection of wildlife. To encourage work of excellence in taxonomy the Ministry has instituted the *Janki Ammal National Award in Taxonomy*. The award carries a cash prize of Rs 50,000 and a citation.

ENVIRONMENTAL LEGISLATION

The Wildlife (Protection) Act, 1972 provides for rational and modern wildlife management while the Forest (Conservation) Act, 1980, has been enacted to check indiscriminate deforestation/diversion of forest land for non-forest purposes. The Water and Air Acts are the major instruments for the control of water and air pollution and these have provided for the establishment of the Central and State Pollution Control Boards. Acts relating to the national environment are amended from time to time to rationalise and expand their scope, coverage and penal provisions. The Ministry is currently preparing a comprehensive National Policy on Environment. The Water (Prevention and Control of Pollution) Cess Act, 1977 is also being amended to enhance the Water (Cess) Rules for augmenting the resources of Pollution Control Boards to carry out the increased workload and responsibility with the rapid expansion of industries and towns. A Bill in this regard has been introduced in the Lok Sabha on 15 December 2000. A national conference on Environment & Forests was held on 29-30 January 2001 at Coimbatore.

INTERNATIONAL COOPERATION

The Ministry of Environment and Forests functions as a nodal agency for United Nations Environment Programme (UNEP), South Asia Cooperation Environment Programme (SACEP), International Centre for Integrated Mountain Development (ICIMOD), International Union for Conservation of Nature and Natural Resources (IUCN) and various international agencies, regional bodies and multilateral institutions. The Ministry and its agencies receive assistance from various countries such as Sweden, Netherlands, Norway, Denmark, Australia, U.K., U.S.A., Canada, Japan, FRG, etc., on bilateral basis and from several UN and other multilateral agencies such as UNDP; World Bank, Asian Development Bank, OECF(Japan) and ODA(U.K.) for various environmental and forestry projects.

OZONE CELL

Global efforts to protect the ozone layer started in the early seventies leading to the adoption of the Vienna Convention on Ozone Depleting Substances (ODS) in 1985 and the Montreal Protocol in 1987. India acceded to the

Montreal Protocol, along with its London Amendment in 1992. To meet the country's commitment on ODS phase-out under the protocol and to disseminate information on ozone and ODS, the Ministry has established an Ozone Cell. A bi-monthly newsletter on ozone issues is published by the Cell. Workshops and seminars are also conducted to create awareness about ozone among industries. The Ministry provides custom/excise duty exemption for ODS phase-out projects and detailed guidelines/procedures have been finalised to grant duty exemption for new investments with non-ODS technologies. A policy to issue licences for import of ODS has been implemented and the Reserve Bank of India has issued instructions to all commercial banks prohibiting finance or refinance of new investments with ODS technologies.

A ban has also been imposed on trade of ODS with new parties. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 has also been notified to provide a legal frame-work for ensuring compliance of the Montreal Protocol.

9 Health and Family Welfare

UNDER the Constitution, health is a State subject. The Central Government's intervention to assist the State Governments is needed in the areas of control/eradication of major communicable and non-communicable diseases, broad policy formulation, medical and para-medical education along with regulatory measures, drug control and prevention of food adulteration, besides activities concerning the containment of population growth including child survival and safe motherhood (CSSM) and immunization programmes.

The infant mortality rate has been brought down from 148 per 1,000 live births in 1951 to 70 in 1999. Life expectancy has risen from 37.1 (male) and 36.2 (female) in 1951 to 62.3 (male) and 65.27 (female) in 1999. The country has been able to achieve zero guineaworm status as no new cases of guineaworm have been reported after 1996. We are making steady progress towards elimination of leprosy, polio, neonatal tetanus and Iodine Deficiency Disorders.

HEALTH PLANS

Control of infectious diseases like Malaria, TB, Leprosy and AIDS continue to be an area of major concern in the Central Health Sector. With the decline in death rate and increase in life expectancy, epidemiological transition is underway resulting in increase in non-communicable diseases like cardiovascular ailments, cancer, cataract induced blindness, diabetes, etc. To tackle the menace of communicable and non-communicable diseases, the Department for Health is implementing National Health Programmes throughout the country for Malaria, TB, Leprosy, Blindness, AIDS, Cancer, etc. Schemes are also under implementation for strengthening of surveillance and epidemic response systems to prevent outbreak of infectious diseases. Plans drawn up for augmenting the emergency services in Central hospitals are at various stages of implementation. Renovation and modernisation of institutions/organisations in the Central health sector have been planned which aim at strengthening drug quality control and food safety. Central institutions engaged in imparting medical and paramedical education, research, patient care are being strengthened.

During 2000-01 and 2001-02, outlays of Rs 1,300 crore and Rs 1,450 crore including Rs 482 crore and Rs 629 crore as foreign aid, respectively, were approved for the Central Health Sector Programmes.

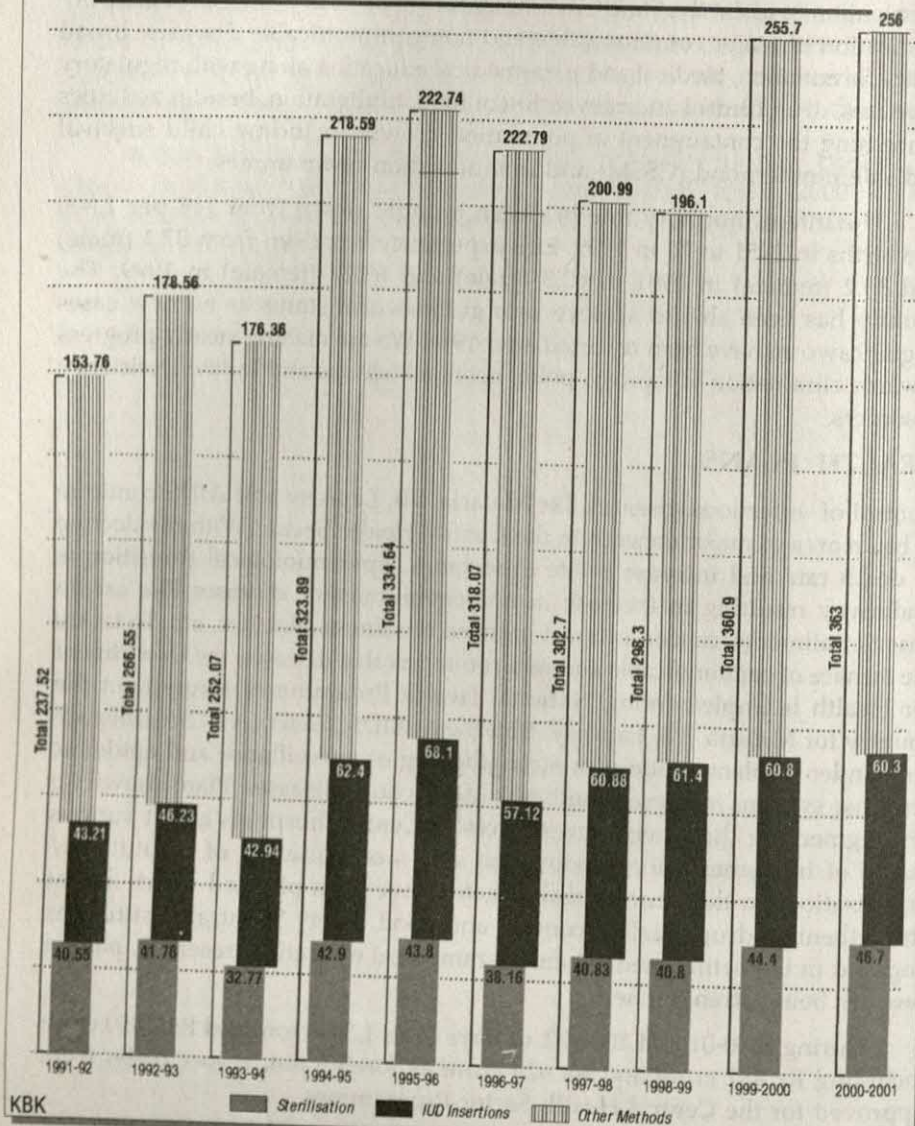
NATIONAL HEALTH PROGRAMMES

MALARIA

The National Anti Malaria Programme is the world's biggest health programme against a single communicable disease and continues to be the country's most comprehensive and multi-faceted public health activity. With the successful

ACCEPTORS OF FAMILY WELFARE METHODS

IN LAKH



implementation of the programme in 1958, the annual incidence of malaria was drastically reduced from 7.5 crore at the time of Independence to about one lakh in 1965. Deaths due to malaria were completely eliminated. Unfortunately, due to various factors, these achievements could not be maintained. Resurgence of malaria necessitated renewed vigorous anti-malaria activities and the programme was modified in the context of escalating malaria incidence. This Modified Plan of Operation (MPO) was implemented from April 1977.

Since the implementation of MPO, the malaria incidence has gradually gone down to 1.66 million cases in 1987 as against 6.47 million cases during 1976. Since 1989 onwards the total incidence has been between two to three million cases per year. During 2000 (Provisional), 1.95 million malaria cases, one million *P. falciparum*(Pf) cases and 940 malaria deaths were reported. In view of the resource constraints in seven north-eastern States, cent percent Central assistance is being provided with effect from December 1994. For the effective control of malaria, the Enhanced Malaria Control Project with World Bank assistance is being implemented since September 1997 in 100 hardcore and tribal predominant districts of Andhra Pradesh, Chhattisgarh, Bihar, Jharkhand, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Orissa and 19 problematic towns of various States.

FILARIA

The National Filaria Control Programme was launched in 1955 for the control of filariasis. Activities taken up under the programme include : (i) delimitation of the problem in hitherto unsurveyed areas and (ii) control in urban areas through recurrent anti-larval measures and anti-parasite measures. About 460 million people are estimated to be living in known edemic areas. At present about 51.71 million urban population is being protected through recurrent anti-larval measures by 206 control units, 199 filaria clinics and 27 filaria survey units. Training in filariology is imparted at three Regional Filaria Training and Research Centres situated at Calicut, Rajahmundry and Varanasi under the National Institute of Communicable Diseases of Delhi. During 1997, 41 million population in 13 districts of Bihar, Uttar Pradesh, West Bengal, Orissa, Andhra Pradesh, Tamil Nadu and Kerala was covered under the revised strategy for filaria control with single dose annual mass drug administration of diethyl carbamazine (DEC).

KALA-AZAR

Kala-azar is a serious public health problem endemic in Bihar and West Bengal. Until 1990-91, the assistance for *Kala-azar* control was being provided by the Government of India out of the National Anti-Malaria Programme (NAMP). During 1999, 12,886 cases with 297 deaths and in 2000, 14,339 cases with 150 deaths were reported. During 2001 (Provisional), 4,998 cases and 75 deaths have been reported up to June. The Centre provides insecticide, anti-*Kala-Azar* drugs and technical guidance to the affected States.

JAPANESE ENCEPHALITIS

Japanese Encephalitis (JE) caused by a virus and spread by mosquitoes, has a high mortality rate of 10-40 per cent. In the last five years JE acquired serious magnitude in Andhra Pradesh, West Bengal, Assam, Tamil Nadu, Karnataka, Kerala, Manipur, Goa, Punjab, Haryana and Uttar Pradesh and reported maximum cases and deaths of Japanese Encephalitis. During 2000, 2,593 cases with 556 deaths were reported. Japanese Encephalitis vaccine has been developed indigenously by Central Research Institute, Kasauli. Funds for JE control activity are utilised out of NAMP budget.

DENGUE FEVER/DENGUE HAEMORRHAGIC FEVER

Dengue fever is a fatal re-emerging viral disease, which is transmitted through the bites of female *Aedes aegypti* mosquitoes. In India, the virus was first isolated during fifties. Outbreaks have been reported from various parts of the country primarily from urban areas. There are four serotypes of dengue virus which are prevalent in India. Dengue viral infection may remain a symptomatic or manifest either as undifferentiated febrile illness (viral syndrome), Dengue Fever (DF) or Dengue Haemorrhagic Fever (DHF).

An outbreak of Dengue was reported in Delhi in 1996, when 10,252 cases and 423 deaths were reported. Incidence of dengue was also reported from Haryana, Punjab, Uttar Pradesh, Karnataka, Maharashtra and Tamil Nadu the same year with 16,517 cases and 545 deaths. During 1999, 944 dengue cases and 17 deaths were reported from Tamil Nadu, Karnataka, Delhi, Haryana, Maharashtra, Rajasthan, Punjab, Uttar Pradesh and Gujarat. During 2000, 622 cases and seven deaths were reported. During 2001 (up to May), 41 cases have been reported.

TUBERCULOSIS

India contributes nearly one third of global burden of tuberculosis. Each year approximately 20 lakh new TB cases are added to the pool out of which at least eight lakh being highly infectious smear positive patients. About five lakh people die due to this disease every year.

The Government of India launched a National TB Control Programme in 1962. The programme built up a good infrastructure by establishing 446 District TB Centres, 330 TB clinics in urban areas and over 47,000 beds. The programme is integrated with primary health care infrastructure and from 1997-98 drugs are provided to all the patients through cent percent central assistance. A Revised National TB Control Programme (RNTCP) was launched on 26 March 1997 with an aim to cure 85 per cent of new smear-positive cases and to detect at least 70 per cent of such cases. RNTCP is based on WHO recommended DOTS (Directly Observed Treatment Short Course) strategy and is being implemented with assistance of International agencies like DANIDA for Orissa, DFID for Andhra Pradesh and World Bank for rest

of the country. The present coverage under the programme is more than 400 million population and it is proposed to cover 500 million population by March 2002. It is contemplated to increase coverage up to 800 million population by 2004. So far more than 6,00,000 patients have been initiated on RNTCP as a result of which more than 1,00,000 deaths have been averted and more than 10,00,000 new infections prevented.

LEPROSY

About 60 per cent of the globally recorded leprosy cases are in India. The National Leprosy Eradication Programme (NLEP) was launched in 1983 as a hundred per cent Centrally-sponsored scheme. The programme was expanded with World Bank assistance from 1993-94. The second phase of World Bank supported NLEP project was started from 1 April 2001 for a period of three years. The objective is to achieve elimination of leprosy as a public health problem by the end of 2003-04 thereby reducing the caseload to less than 1/10,000 population. Till March 2001, 12 States, *viz.*, Nagaland, Punjab, Haryana, Sikkim, Himachal Pradesh, Meghalaya, Tripura, Mizoram, Manipr, Jammu & Kashmir, Rajasthan and Assam have reached level of elimination. 556 District Leprosy Societies have been created to provide free Multi Drug Therapy (MDT) Services in all the districts of the country. About 288 voluntary organisations in coodination with NLEP are supplementing the Government efforts in the fight against leprosy. The Government of India provides grant-in-aid to the NGOs engaged in the survey, education and treatment activities in the population. Anti-leprosy drugs are provided free to all States/UTs. By March 2001, 4.3 lakh patients are on record in the country, 99.5 per cent of whom are getting MDT. The prevalence of leprosy has been reduced from 57/10,000 population in 1981 to 4.28/10,000 population by March 2001 (provisional).

The first round of Modified Leprosy Elimination Campaign (MLEC) was implemented in all the States/UTs. A total of 4.64 lakh new patients was detected. The second round of such campaign was also implemented in 1999-2000 in all the States/UTs except Andaman & Nicobar Islands. A total of 2.11 lakh patients was identified during this campaign. All confirmed patients have been put under free Multi Drug Therapy (MDT).

BLINDNESS

The National Programme for Control of Blindness (NPCB) was launched in the year 1976 as 100 per cent Centrally-sponsored scheme. During the Seventh and Eighth Plan, development of infrastructure was undertaken by establishing Regional Institute of Ophthalmology, upgradation of medical colleges and district hospitals, and development of mobile eye units.

A national survey conducted during 1986-89 indicated that the prevalence of blindness was 1.49 per cent with an estimated 12 million economically blind persons. Of the total, 80.1 per cent were blind due to cataract. Two-third of the blind were in Andhra Pradesh, Orissa, Madhya Pradesh, Maharashtra,

Rajasthan, Tamil Nadu and Uttar Pradesh. Recent rapid surveys (1998-99) and pilot survey (1999) have indicated marginal reduction in prevalence of blindness, increase in coverage and significant rise in percentage of Intra Ocular Lens implantation. Thirteen more districts are being currently surveyed.

The programme has developed network of eye care facilities at various levels. At the tertiary level, there are 11 Regional Institutes of Ophthalmology including the apex institute, Dr R.P. Centre for Ophthalmic Sciences in the All India Institute of Medical Sciences, New Delhi. In addition, 82 medical colleges have been upgraded. At the secondary level, 445 district hospitals have been equipped for ophthalmic services. 307 new eye wards and OTs have been constructed under the World Bank Assisted Cataract Blindness Control Project. More than 600 eye surgeons have been trained in Intra Ocular Lenses implantation, 80 central mobile units (attached to medical colleges) and 341 district mobile units organise screening of eye camps. At the primary level, 5,633 Primary Health Centres have been upgraded by providing ophthalmic equipments and posting ophthalmic assistants. District Blindness Control Societies have been set up in all States. At present 522 District Blindness Control Societies are functioning.

The services provided under the programme include free cataract surgery including Intra Ocular Lens implantation. Over 35 lakh cataract surgeries were performed during 1999-2000.

SEXUALLY TRANSMITTED DISEASES

Sexually Transmitted Diseases (STDs) control programme was introduced as a national control programme by the Government of India during the Fourth Five Year Plan with the objective to contain the spread of STDs in the country. Under the programme, the following infrastructure has been developed : (a) Regional STDs Referral Research and Training Centres : Five regional centres were created at Chennai, Nagpur, New Delhi, Kolkata and Hyderabad to develop health manpower in management of STDs; (b) STD Clinics : 504 STDs clinics mostly located in medical colleges and district level hospitals are functioning in the country. These clinics provide consultation, investigations, counselling and treatment services to STD patients; and (c) Strengthening of Obstetric and Gynaecology clinic for management of STDs : National Aids Control Programme (NACO) is providing financial support to all Obstetric and Gynaecology clinics where 504 STD clinics are located. The financial support is provided for procurement of drugs for treatment of STDs and consumables.

NATIONAL AIDS CONTROL PROGRAMME

The Government of India addresses HIV/AIDS epidemic, simply not as a health problem, but as a developmental issue, which impinges on various economic and social sectors of Government and non-government activity. The National Aids Control Programme, Phase-II is being implemented for a period of five years from April 1999 with the support of I.D.A. and other

bilateral donor agencies like USAID and DFID. This phase of the programme has two key objectives : (a) Reduce the rate of growth of HIV infection in India; and (b) strengthening India's capacity to respond to HIV/AIDS. The programme has the following components : (i) Priority targeted Interventions for groups at high risk; (ii) Preventive interventions for the general community : Under this component, the main activities are : (a) Conduction of IEC and awareness campaign; (b) Promotion of voluntary counselling and testing facilities; and (c) Blood safety and prevention of occupational exposure. (iii) Low cost AIDS care to people living with HIV/AIDS; (iv) Institutional strengthening; and (v) Inter-sectoral collaboration.

In order to track the progress of HIV epidemic in the country, NACO initiated nationwide sentinel surveillance in August-October 1998. Since then, nationwide sentinel surveillance rounds are being conducted on regular basis. Estimates based on sentinel surveillance data indicate that there is no upsurge in spread of HIV infection. The estimated number of HIV infections are : 3.5 million in 1998, 3.7 million in 1999 and 3.86 million in 2000. Although there is gross under reporting of AIDS cases, cumulative number of cases reported by States and UTs is 16,722 till December 2000.

IODINE DEFICIENCY DISORDERS

Iodine is an essential micronutrient and is required at 100-150 mg daily for normal human growth and development. Deficiency of Iodine in the daily diet may cause goitre and other Iodine Deficiency Disorders (IDD). Endemic goitre has been recognised as a major health problem in India. Results of samples surveys conducted in 282 districts of 28 States and five Union Territories have revealed 241 districts endemic for IDD where the prevalence of IDD is above 10 per cent. It is estimated that in India more than 71 million people are suffering from various Iodine Deficiency Disorders. The Government launched fully Centrally-assisted National Goitre Control Programme (NGCP) in 1962 with focus on provision of iodised salt to identified endemic areas and in 1985 the Government decided to iodise the entire edible salt in the country by 1992 in a phased manner. To date, the production of iodated salt is 46 lakh MT per annum. About 532 of the 930 private manufacturers licensed by the Salt Commissioner have commenced production of iodated salt. The NGCP has been redesignated as National Iodine Deficiency Disorders Control Programme (NIDDCP) to emphasise the importance of all the IDDs. So far 31 States/Union Territories have completely banned the use of salt other than iodated salt for edible purpose under PFA Act, while another two States have imposed a partial ban and have also set up IDD monitoring laboratories in their respective health directorates.

SURVEILLANCE PROGRAMME FOR COMMUNICABLE DISEASES

National Surveillance Programme for Communicable Diseases has been launched for strengthening the disease surveillance system so that early warning signals are recognised and appropriate timely follow-up action is

initiated. The main programme component is capacity building at district and state levels. The programme is implemented by the state health authorities. Programme at the Central level is coordinated by the National Institute of Communicable Diseases (NICD), Directorate General of Health Services.

In 1997, a pilot project was taken up in five districts for operational assessment of strategy of the programme. Twenty more districts were taken up in 1997-98 and another 20 districts added during 1998-99. During 2000-01, 35 districts have been added. Training of all state level and district level rapid response teams have been completed for districts taken up till 1999-2000. Training of paramedicals in these districts have also been undertaken. A sum of Rs 2.71 crore and Rs 4.31 crore was released to the state governments as grant-in-aid during 1999-2000 and 2000-01 respectively.

MENTAL HEALTH

The National Mental Health Programme was started in 1982. The District Mental Health Programme was launched in 1996-97 as a pilot project. The programme envisaged a community based approach to tackle the mental health problems within the community at the periphery and aims at early detection and treatment of cases as well as follow up of cases discharged from the mental hospitals at the community level. For this purpose free medicines are being given. The project is under implementation in 16 States in which one district and one nodal institution has been chosen for the purpose. Mental health authorities have been set up in most of the States. Conditions in mental hospitals are being improved. The National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore has been providing technical help wherever necessary. During 1997-98, the programme was extended to seven more districts, one each in Himachal Pradesh, Uttar Pradesh, Haryana, Punjab, Madhya Pradesh, Maharashtra and Arunachal Pradesh. A sum of Rs four crore was provided in the budget estimate. The Programme envisages a community based approach to the problem which includes : (i) training of the mental health team at the identified nodal institute within the state; (ii) creating awareness about mental health problems; (iii) provide services for early detection and treatment of mental illness in the community itself with both OPD and indoor treatment and follow-up of discharged cases, and (iv) provide data and experience at the level of community in the State and Centre for future planning, improvement in service and research. The training to the trainers at the State level is provided by the National Institute of Mental Health and Neuro Sciences, Bangalore. Efforts are underway to address the problem of long stay patients in Mental Hospitals and to prevent chronicity through early effective therapeutic interventions using the anti psychotic and anti depressant medications.

CANCER

It has been estimated that there are 20-25 lakh cases of cancer in the country

at any given point of time and about seven lakh new cases being detected every year. As cancer has a high rate of mortality, unless detected and treated early, the emphasis is on prevention, early detection of cases and augmentation of treatment facilities in the country. Under the National Cancer Control Programme the following schemes are under implementation: (i) Development of Regional Cancer Centres; (ii) Development of Oncology Wing in Medical Colleges; (iii) Setting up of Cobalt Therapy Unit; (iv) District Cancer Control Programme; and (v) Health education and early detection activities. Seventeen Regional Cancer Centres in different states have been recognised as referral and research centres.

A modified district cancer control programme has been initiated in Bihar, Uttar Pradesh, Tamil Nadu and West Bengal. Nearly 15 lakh women in these states will be approached for generating awareness and collection of data about cancer and other diseases. The project is scheduled to be completed by 31 March 2002.

GUINEAWORM ERADICATION PROGRAMME

After the successful eradication of Small Pox from the country in 1977, guineaworm disease was targeted for eradication. In 1983-84, India became the first country to launch an eradication programme against the disease, which had been causing great human suffering and economic loss to the people living in the remote rural areas of the country where adequate, safe drinking water was not available. The programme is implemented through the existing primary health care infrastructure of the country in collaboration with the Ministry of Rural Development and the State public health engineering departments.

In 1984, there were around 40,000 GW cases in seven endemic States. As a result of the effective strategies and concerted efforts by the Central and State Governments, the last case of guineaworm disease was reported in July 1996. An International Certification team of WHO has declared India as guineaworm disease free country in February 2000.

YAWS ERADICATION PROGRAMME

Yaws is a disfiguring and debilitating non-venereal treponemal infection. It can be cured and prevented by a single injection of long acting (benzathine benzyl) penicillin. Yaws is amenable to eradication. Yaws occurs in remote areas which have limited accessibility to health care services. The pilot project to eradicate the disease in Koraput district was started in 1996-97. The programme has been extended to Madhya Pradesh, Andhra Pradesh, Maharashtra, Gujarat, Assam, Bihar, Tamil Nadu and Uttar Pradesh. The National Institute of Communicable Diseases, Delhi is the nodal agency for monitoring and coordinating the activities of the programme. An amount of Rs 3.7 crore has been earmarked for the Ninth Plan period. The programme activities are continuing in all the endemic states. A total of 2,525 cases of yaws were detected during the year 2000.

MEDICAL RELIEF AND SUPPLIES

HOSPITALS AND DISPENSARIES

Medical services are primarily provided by the Central and State Governments. Certain charitable, voluntary and private institutions also provide medical relief. The district and sub-divisional hospitals are being further developed by removing deficiencies in referral services. As on 1 January 1999, there were 15,533 hospitals and the population served per hospital was 63,177.

RURAL HEALTH INFRASTRUCTURE

The Government has started concentrating on the development of rural health infrastructure under the Minimum Needs Programme so as to provide health care services to rural population. The stress in the National Health Policy is on the provision of preventive, promotive, curative and rehabilitative health services to the people. The idea is to place the health of the people in their hands through the primary health care approach.

In the rural areas services are provided through a network of integrated health and family welfare delivery system. As on 30 June 1999 an extensive network of 2,935 Community Health Centres, 22,975 Primary Health Centres and 1,37,271 Sub-centres had been set up to provide primary health care at the grassroot level. One Sub-centre manned by one female and a male multi-purpose worker covers a population of 5,000 in plain areas and 3,000 in hilly, tribal and backward difficult terrain areas. One Primary Health Centre covers a population of 30,000 in the plain areas and 20,000 in tribal and difficult terrain areas. One Community Health Centre covers 80,000 to 1.20 lakh population. It has 30 indoor beds, well-equipped laboratory and X-ray facility.

CENTRAL GOVERNMENT HEALTH SCHEME

The Central Government Health Scheme (CGHS) was started in 1954 with the objective of providing comprehensive medical care facilities to the Central Government employees and pensioners and to their families and to do away with the cumbersome system of medical reimbursement under Central Services (Medical Attendance) Rules, 1944. Besides Central Government employees, the scheme also provides services to the Members and ex-Members of Parliament; Judges of Supreme Court and High Court (sitting and retired); Freedom Fighters; Employees of Semi-Autonomous bodies/Semi-Government Organisations; Accredited Journalists and ex-Governors and ex-Vice Presidents of India. The Scheme was initially started in Delhi. CGHS Services were subsequently extended to the following cities: Allahabad, Ahmedabad, Bangalore, Mumbai, Kolkata, Hyderabad, Jaipur, Jabalpur, Lucknow, Chennai, Meerut, Nagpur, Patna, Pune, Kanpur, Thiruvananthapuram and Guwahati. In addition, employees of the Accountant General of India are being provided CGHS coverage at Bhubaneswar and Ranchi. There are 241 Allopathic dispensaries for 9.86 lakh card-holders and 42.37 lakh beneficiaries of CGHS. The CGHS facilities to the beneficiaries have also been

provided for Indian System of Medicines through dispensaries/units in *Ayurveda*, Homoeopathy, *Unani*, *Siddha* and *Yoga*. The number of dispensaries in each system are as follows: Ayurvedic dispensaries/Units-31, Homoeopathic dispensaries/Units-34, *Unani* dispensaries/Units-nine, *Siddha* dispensaries/Units-two and *Yoga*-three. There are 19 polyclinics, 65 laboratories and 17 dental units functioning under CGHS.

The CGHS beneficiaries now have the option of availing specialised treatment at a CGHS/Government recognised hospital of their choice after a specialist/doctor of CGHS/Government hospital has recommended the procedure. The reimbursement is, however, restricted to the package rates/ceiling laid down by the Government.

EMERGENCY MEDICAL RELIEF

India with a wide range of topographic and climatic conditions has witnessed various types of natural disasters. It is a major disaster prone country in the Asia-Pacific region. During the year 2000-2001, in 13 States there were incidents of flood and heavy rains and in six States there were landslides. The second strongest earthquake during the last 50 years measuring 6.9 on Richter Scale with epicenter at about 20 km north-west of Bhuj struck Gujarat at 8.46 A.M. on 26 January 2001 causing heavy damage to the human lives and property. As per the State Government's estimate is total number of 3.70 lakh houses were fully destroyed and 9.23 lakh houses were partially damaged. A total of 19,984 human lives have been lost. The health infrastructure in many places of Gujarat such as Bhachau, Anjar, Rapar, Jamnagar, Kandla and Bhuj was destroyed resulting in the breakdown of the health delivery system. To render immediate medical relief teams consisting of doctors and para-medics from Central Government hospitals and AIIMS were flown to Bhuj along with medicines and equipments. During the post disaster period a Central Surveillance Cell along with a field laboratory was established for about three months to assist the State Government in their efforts to implement the public health measures to contain outbreak of any disease.

The Directorate General of Health Services, Ministry of Health & Family Welfare, provides technical assistance to the States to counter the effects of disasters in health sector. Emergency Medical Relief Division of the Directorate coordinates the Central assistance to the affected States for health relief activities.

DRUGS

The Drugs and Cosmetics Act, 1940, as amended from time to time, regulates import, manufacture, sale and distribution of drugs and cosmetics in the country. Under the Act, import, manufacture and sale of sub-standard, spurious, adulterated or misbranded drugs are prohibited. The Government is empowered to check the quality of imported drugs, coordinate the activities of the States, lay down regulatory measures and standards of drugs and grant an approval for the import or manufacture of new drugs. The control over

the quality of drugs which are manufactured, sold and distributed in the country, is exercised by State governments. Zonal offices of the Central Drugs Standards Control Organisation (CDSCO) at Mumbai, Kolkata, Ghaziabad and Chennai, and sub-zonal offices at Lucknow, Patna and Hyderabad maintain close liaison with state organisations for enforcement of the provisions of this Act. CDSCO also arranges training programmes for the personnel concerned with drugs standard control. Central Drugs Laboratory (CDL), Kolkata functions as the testing laboratory for imported drugs and analytical quality control of drugs manufactured within the country on behalf of the Centre assisted by Central Indian Pharmacopoeia Laboratory, Ghaziabad and Central Drug Testing Laboratory at Chennai and Mumbai and State Drugs Control Authorities. CDL, Kolkata is the appellate laboratory under the Drugs and Cosmetics Act to test samples of drugs sent to it by courts. Central Licensing Approval Authority (CLAA) at CDSCO, New Delhi approves the licences for blood banks, blood products, large volume parenterals, sera and vaccines jointly with the state licensing authorities. The Central and State governments are advised on technical matters by the Drugs Technical Advisory Board constituted under the Act.

The Department of Chemicals and Petrochemicals controls the prices of bulk drugs and formulations under statutory control since 1962. Currently it is governed by the Modified Drugs (Prices Control) Order, 1994. As a result of these measures, the wholesale price index of drugs and medicines has been kept at a steady level *vis-a-vis* other commodities.

VACCINE PRODUCTION

India is self-sufficient in the production of all vaccines, required for the National Immunization Programme (NIP) except polio. The Polio Vaccine is being imported in bulk in a concentrated form and blended at the Haffkine Bio-Pharmaceutical Corporation Limited, Mumbai; Bharat Immunologicals and Biologicals Corporation Limited; Bulandshahar (UP); Panacea Biotech Limited, Delhi; and Biomed Private Limited, Ghaziabad (UP). Requirement of BCG Vaccine under NIP is being met fully by BCG Vaccine Laboratory, Guindy. The Laboratory has surplus vaccine which can be exported. Administration of Hepatitis-B Vaccine under NIP has been taken up on pilot basis. Indigenous production of Hepatitis-B vaccine has been started at Bharat Biotech Limited, Hyderabad and Shanta Biotechnics Private Limited, Hyderabad.

NUTRITION

Major nutritional problems in India are Protein Energy Malnutrition (PEM), Iodine Deficiency Disorders (IDD), Vitamin A Deficiency (VAD) and anaemia. Besides, fluorosis is also prevalent and lathyrism is localised to certain regions. The Nutrition Cell in the Directorate General of Health Services provides technical advice on all matters related to nutrition. State nutrition divisions set up in 17 States and Union Territories assess the diet and nutritional status in various groups of population, conduct nutrition education campaigns,

supervise supplementary feeding programmes and other nutritional ameliorative measures. The Integrated Child Development Scheme (ICDS) provides a package of services to control nutritional and health problems. To prevent blindness among children due to Vitamin A deficiency, a concentrated dose of Vitamin A is given orally to children along with their immunization. Similarly, to prevent nutritional anaemia among women and children, tablets of iron and folic acid are distributed through health centres. The National Institute of Nutrition, Hyderabad and All India Institute of Hygiene and Public Health, Kolkata are the principal organisations for nutrition research and training.

MEDICAL EDUCATION AND RESEARCH

INDIAN COUNCIL OF MEDICAL RESEARCH

The Indian Council of Medical Research (ICMR), an autonomous organisation under the Ministry of Health and Family Welfare, is the apex body for the formulation, coordination and promotion of biomedical research in India. Its activities comprise developing strategies for medical research on a national basis, identifying priority areas of research, formulating research programmes and operationalisation of these research programmes through grant-in-aid to research institutes, medical colleges and universities. ICMR's main research programmes are conducted largely through Extramural Research Programme by involving 31 Human Reproduction Research Centres located in Medical Colleges in different parts of the country. The Intramural Research Activity is being carried out through Institute for Research in Reproduction, Mumbai and National Institute of Nutrition, Hyderabad. Grant-in-aid is being given to the ICMR on a yearly basis for undertaking research in contraceptive technology under the National Family Welfare Programme.

MEDICAL COUNCIL OF INDIA

The Medical Council of India (MCI) was established as a statutory body under the provisions of the Indian Medical Council Act, 1933 which was later repealed by the Indian Medical Council Act, 1956 with minor amendments in 1958. A major amendment in the I.M.C. Act, 1956 was made in 1993 to stop the mushroom growth of medical colleges/increase of seats/starting of new courses without prior approval of the Ministry of Health and Family Welfare. The main functions of the Council are: maintenance of uniform standard of medical education both at the undergraduate and the post-graduate level; maintenance of Indian Medical Register; reciprocity with foreign countries in the matter of mutual recognition of medical qualifications; continuing medical education and granting of provisional/permanent registration of doctors with recognised medical qualifications, registration of additional qualifications and issue of Good Standing Certificate for doctors going abroad to commonwealth countries. At present there are 183 medical colleges in the country out of which 157 medical colleges have been recognised by MCI and 26 new medical colleges permitted by the Central Government

to conduct MBBS course. The admission capacity in these colleges is approximately 19,090 students per year.

DENTAL COUNCIL OF INDIA

Dental Council of India was established under the Dentists Act, 1948 with the prime objective of regulating dental education, profession and its ethics in the country. It periodically carries out inspections of dental institutions to ascertain the adequacy of teaching facilities. One hundred and thirty eight dental colleges are functioning in the country with an admission capacity of 8,181 students in the BDS courses.

PHARMACY COUNCIL OF INDIA

The Pharmacy Council of India is a statutory body constituted under the Pharmacy Act, 1948. It is responsible for regulation and maintenance of uniform standard of training of pharmacists. It also prescribes syllabi and regulations for diploma courses in pharmacy and registration of pharmacists. At present, there are 343 institutions imparting Diploma in Pharmacy to 20,000 students per annum and 143 institutions offering Degree in Pharmacy to 7,500 students.

INDIAN NURSING COUNCIL

Indian Nursing Council is a statutory body constituted under the Nursing Act, 1947. The Council is responsible for regulation and maintenance of uniform standards of training for Nurses, Midwives, Auxiliary Nurse Midwives and Health Visitors. The Council prescribes the syllabi and regulations for various Nursing Courses. At present 701 General nursing and Midwifery Schools; 348 Auxiliary Nurse Midwifery Schools, 14 Diploma in Nursing Education and Administration Institutions; 120 B.Sc. (Nursing) Colleges and 13 M.Sc. (Nursing) Colleges, are functioning in the country. On an average 15,000 to 20,000 nurses qualify every year. So far 7,37,280 nurses have been registered with various State Nursing Councils.

NATIONAL ACADEMY OF MEDICAL SCIENCES

The National Academy of Medical Sciences (NAMS) was established as a registered society with the objective of promoting the growth of medical sciences. It recognises talent and merit in the form of election of fellows and members of the Academy. To keep medical professionals abreast with new problems and update their knowledge in those fields for the required delivery of health care, a programme of Continuing Medical Education (CME) is being implemented by the Academy since 1982. As on 31 October 2001, the NAMS has on its rolls seven honorary fellows, 677 fellows and 1,929 members.

HEALTH EDUCATION

The Central Health Education Bureau (CHEB)—an apex Institute in Health Education—imparts in-service training to all categories of personnel in health and related sectors at the state and district levels. They in turn disseminate the message of health awareness in the community at large. The Bureau, set

up in 1956, also continues to provide up-to-date information on current issues and development in health education, besides communication and training. The Bureau achieves its objectives through eight technical divisions, namely, Training, Media, Editorial, Health Education Services, Research and Evaluation, Field Study and Demonstration Centre and Health Related Vocational Courses. The Training Division runs a post-graduate Diploma Course in Health Education of two years duration at the University of Delhi; Media personnel training course of eight weeks duration; Certificate courses in Health Education for para-medical professionals, medical officers, teachers and key trainers; district-level medical officers course, etc.

The Media Division is the Information Education and Communication unit of the Bureau. It prepares and produces printed materials on important public health subjects. The School Health Division promotes health education in the school system. The Health Education Services Division renders technical guidance to State Health Education Bureaux and assists government and non-government agencies in promoting health education in the country. It also co-ordinates with international and national agencies. The CHEB is a nodal agency for promoting Health-Related Vocational Courses (HRVCs) at the 10+2 stage of education in the country in collaboration with the Department of Education. The HRVC Division develops curricula and text-books for various HRVCs and persuades the States/UTs to start these courses. The Research Division conducts Behavioural Studies on various aspects of health problems that serve as a basis for launching health education campaigns. It also conducts Social Science Research Methods Courses. The Field Study and Demonstration Centres of the Bureau are field laboratories to test and evaluate methods and the media of health education which can be adopted elsewhere.

NATIONAL ILLNESS ASSISTANCE FUND

The National Illness Assistance Fund (NIAF) was set up in 1997 in the Ministry of Health and Family Welfare with an initial contribution of Rs five crore. State Illness Assistance Funds have been set up in 14 States, *viz.*, Andhra Pradesh, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Goa, Gujarat, Madhya Pradesh, Maharashtra, Mizoram, Rajasthan, Tripura, Tamil Nadu and West Bengal. NCT of Delhi, a UT has also set up such fund. These States/UT have been released grant-in-aid as admissible under the Scheme. Other States/UTs have been requested to set up the Fund. All five UTs (without legislature) have also set up Committees to screen cases of medical treatment. These UTs were sanctioned an outlay of Rs 50 lakh each during the year 1998-99. In January 1998 it was decided to sanction Rs 10 lakh each from the National Illness Assistance Fund to the three Central Government Hospitals in Delhi and three institutes of national repute, *viz.*, AIIMS, New Delhi, PGIMER, Chandigarh and JIPMER, Pondicherry to provide assistance up to Rs 50,000 (as substituted) from Rs 25,000 with effect from 11 January 2001 per case to the patients living below-poverty line. The scheme was subsequently extended to NIMHANS, Bangalore and CNCI, Kolkata. Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow and Gandhi

Memorial & Associated Hospitals (KGMH), Lucknow have also been given an advance of Rs 15 lakh each recently.

FAMILY WELFARE

The Family Welfare Programme was officially launched in India in 1952 with the objective of reducing the birth rate to the extent necessary to stabilize the population at a level consistent with the requirement of the national economy. In keeping with the democratic tradition of the country, the Family Welfare Programme seeks to promote responsible and planned parenthood through voluntary and informed choice of family planning methods best suited to individual acceptors.

It is now well established that population is stabilised only when child survival issues, material health issues and contraception issues are addressed simultaneously and effectively. Success of the Family Welfare Programme is dependant on various factors like improved literacy rate, female education, socio-economic status of individuals and families, etc. Under the programme, a range of reproductive and child health services are provided through a network of Government health facilities.

A comparative statement showing the demographic indicators from 1951 to 1999 is given below :

Indicator	1951	1971	1981	1991	1999
Birth rate	40.8	36.9	33.9	29.5	26.1
Death Rate	25.1	14.9	12.5	9.8	8.7
Infant Mortality Rate (per 1,000 live births)	148.0	129	110	80	70
Child (0-4) mortality rate	NA	51.9	41.2	26.5	22.5 (1998)
Total Fertility Rate	6.0	5.2	4.5	3.6	2.9 (NFHS-II)
Expectation of life at Birth	(Male) 37.1	46.4	54.1	60.6	62.30
	(Female) 36.2	44.7	54.7	61.7	65.27
	(1961-71)			(1991-96)	(1996-2001)

Maternal Mortality Rate (per thousand live births) : 4.07 (1998)

THE NATIONAL POPULATION POLICY

The National Population Policy (NPP) has been adopted by the Government on 15 February 2000. It has been laid on the table of both Houses of Parliament during the budget session of Parliament 2000. The policy affirms the commitment of the Government towards voluntary and informed choice and consent of citizens while availing themselves of reproductive health services and continuation of the target free approach in administering family planning services. The policy aims at: (i) Addressing the unmet needs of contraception, health infrastructure, health personnel and to provide integrated service delivery for basic reproductive and child health care; (ii) to bring the total

fertility rates to replacement level by 2010 and (iii) to achieve a stable population by 2045, at a level consistent with the requirements of sustainable economic growth, social development, and environmental protection.

NATIONAL COMMISSION ON POPULATION

The National Commission on Population has been constituted. The Commission will oversee and review implementation of policy. The first meeting of the Commission presided over by the Prime Minister was held on 22 July 2000, in which setting up of the Empowered Action Group (EAG), was announced. EAG has been constituted in the Ministry of Health & Family Welfare to prepare area-specific projects for districts that are lagging behind in the implementation of National Family Welfare Programme. In the year 2001-02, Bihar, M.P., Rajasthan, U.P., Orissa, Chhattisgarh, Uttaranchal and Jharkhand have been selected for focused implementation of multi-sectoral initiatives including family welfare, empowerment of women, female literacy, total immunization, etc., to help improve the socio-demographic indicators in these States. Officers of the Department of Family Welfare have been allocated districts to undertake visits in the EAG States to monitor the implementation of Centrally-sponsored schemes in these districts.

Each State/UT will also have a State/UT Commission on Population, on the analogy of the National Commission, to likewise oversee and review implementation of the NPP 2000 in the State/UT. The State Population Commissions have been constituted in Uttar Pradesh, Rajasthan, Madhya Pradesh, Himachal Pradesh, Haryana, Assam, Maharashtra, Meghalaya, Mizoram, Tamil Nadu, Andhra Pradesh, Lakshadweep, Jammu & Kashmir, Arunachal Pradesh, Kerala, Punjab, Sikkim, Andaman & Nicobar Islands.

REPRODUCTIVE AND CHILD HEALTH PROGRAMME

The Reproductive and Child Health (RCH) Programme launched on 15 October 1997 is in operation in the entire country. The programme follows a differential strategy with districts as the basis with inputs under the programme linked to the needs of the area coupled with its capacity for implementation. The districts have been categorized as A(58), B(184) and C(263) on the basis of Crude Birth Rate and Female Literacy Rate which reasonably reflect the RCH status of the district.

The programme was reviewed last year. Efforts were made to strengthen the routine immunization as well as PPI by launching a project for strengthening of immunization services with assistance from the World Bank. The ongoing activities were accelerated and new schemes on Financial Envelope, *Dais'* Training, RCH Camps and RCH Outreach services were started to address felt gaps. The implementation of EC assisted Sector Investment Programme was geared up specially for State/district level activities and urban RCH component.

UNIVERSAL IMMUNIZATION PROGRAMME

The Universal Immunization Programme (UIP) was launched in 1985 in a phased manner to cover all districts by 1990. The objective of the programme was to reduce infant, child and maternal morbidity and mortality by protecting against six vaccine preventable diseases.

The immunization coverage improved significantly between 1985-1990. Thereafter the coverage has been sustained for all the antigens between 85 per cent to 100 per cent.

Evaluation surveys indicate that there has been significant improvement in coverage between the years 1999-2000 and 2000-2001. There has been 11.6 point increase in respect of BCG, 25.3 point in respect of DTP-3, 17.9 point in respect of OPV-3 and 14 point increase in respect of measles vaccine. The fully immunized children within first year have increased from 37.8 per cent to 53 per cent. However, Andhra Pradesh, Karnataka and Manipur, etc., are showing declining trend. Bihar and U.P. are showing consistently lower coverage in respect of all antigens.

An IDA assisted project to improve routine Immunization Programme was launched on 31 January 2001 to be implemented in the country over a period of three years. The total cost of the project is Rs 1,118 crore including IDA credit of Rs 709.9 crore. The main components of the project are : (a) Polio Eradication activities; (b) Strengthening of routine immunization services and (c) Development of medium term framework for programme.

PULSE POLIO PROGRAMME

Significant progress has been made in eradication of poliomyelitis since the adoption of supplemental immunization activity (Pulse Polio Immunization) since 1995. Under this programme all children of 0-5 age are given two doses of Oral Polio Vaccine at an interval of six weeks. Around 16 crore children have been given polio drops in each of the Pulse Polio Immunization round. The polio cases have declined from estimated 40,000 during 1994 to 265 in 2000.

During 2001 areas with continued polio transmission during low transmission season have been targeted and additional rounds undertaken in order to contain the spread of the virus. The pre-emptive mop-ups covering the States of Bihar, Delhi, Uttar Pradesh, West Bengal and parts of Maharashtra and Karnataka is expected to contain the disease during 2001. As a result of intensified rounds, polio cases have declined from 1,934 reported during 1998 to 1,126 in 1999, 265 in 2000 and 43 cases in 2001 (as on 18 August 2001).

COMMUNITY NEEDS ASSESSMENT APPROACH

From 1 April 1996 the Family Welfare Programme is being implemented all over India on the basis of target-free approach. This approach renamed Community Needs Assessment Approach, envisages replacement of the system of setting contraceptive targets from the top by a system of decentralized participatory planning at the grassroots level. The decentralized planning will take into action the needs of the community and is expected to lead the improvement in quality of services, client satisfaction as well as greater acceptance by the people.

IMPLEMENTATION MACHINERY

The Family Welfare Programme is implemented through the State governments with full Central assistance. In rural areas, services are provided through the network of sub-centres, primary health centres and community health centres. Establishment of sub-centres has been made a hundred per cent Centrally-sponsored scheme (except the salary of male health worker and construction of sub-centre building) since April 1981. Against the requirement of 1.34 lakh sub-centres, there are 1.37 lakh sub-centres functioning as on 30 June 1999.

BIRTH CONTROL METHODS

During 2000-2001, 45.9 lakh sterilizations were performed in the country. The number of IUD insertions during the same period was 60 lakh. Besides, there were 151.7 lakh condom-users and 65.3 lakh OP-users. It is estimated that 46.2 per cent of 17.27 crore eligible couples were protected by one or the other approved family planning methods as on 31 March 2000 averting 257.43 million births, since the inception of the programme.

NO-SCALPEL VASECTOMY

No-Scalpel Vasectomy (NSV) is one of the most effective contraceptive methods available for males. It is an improvement on the conventional vasectomy with practically no side effects or complications. 1,00,166 acceptors have undergone NSV operations and 976 doctors trained in the technique of No-Scalpel Vasectomy.

SOCIAL MARKETING OF CONTRACEPTIVES

Social Marketing of Contraceptives aims at making contraceptives available to that segment of population which can afford to buy the same from the market at a lower cost. Under the scheme of Social Marketing of Contraceptives, condoms and oral pills are currently being sold at subsidised prices through the distribution network of private/public marketing companies and NGOs. Subsidy ranging from 55-91 per cent on the procurement cost is being provided by the Government.

MATERNAL HEALTH PROGRAMME

The existing maternal health situation of the country is a cause of concern

for all. India's maternal mortality rate is 407 per one lakh live births. The causes of maternal deaths are known and treatable. However, it is not largely preventable or predictable. To tackle this enormous problem, a number of interventions have been provisioned for the current Reproductive and Child Health (RCH) programme. They are : provision of emergency obstetric care through establishment of First Referral Units; promotion of institutional delivery by providing round-the-clock delivery services in PHCs/CHCs; ensuring early ante-natal registration of pregnant women to provide regular check-ups for taking preventive and promotive steps and to detect early complications to enable prompt action; at least three ante-natal check ups to monitor the progress of the pregnancy as well as three post-natal check ups to monitor the post-natal recovery have been provided for; linking the community with service delivery system through *Panchayat* by providing corpus fund for transportation costs of the pregnant women from poor families; improve mobility of ANMs for better outreach services, and community awareness through IEC as well as training.

MEDICAL TERMINATION OF PREGNANCY

Unsafe abortion is one of the major causes of maternal mortality. According to the SRS (RGI, 1998), 8.9 per cent of maternal deaths are due to unsafe abortion. Medical Termination of Pregnancy Act, 1971, was enacted with the objective to reduce maternal morbidity and mortality due to unsafe abortions. Under this Act, termination of pregnancy can be done in pregnant women up to 20 weeks, if pregnancy is likely to result in birth of congenitally, malformed child or continuation of pregnancy is likely to harm the mother in the existing circumstances and in cases of rape and contraceptive failures. At present there are 9,528 approved MTP centres in the country. Annual number of MTPs reported is around 6,00,000.

PREVENTION OF PRE-NATAL SEX DETERMINATION

With a view to regulate and prevent the misuse of modern pre-natal diagnostic techniques, the Pre-natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 has been enforced in the country with effect from 1 January 1996. It is a progressive piece of legislation aiming at eliminating the social evil of female foeticide, which often follows pre-natal sex determination. Pre-natal diagnostic techniques can be conducted and genetic counselling can be offered only by genetic clinics/laboratories/counselling centres registered under the Act for detection and treatment of foetal abnormalities subject to fulfillment of the conditions specified in the Act. Disclosure of the sex of the foetus is prohibited. Punishments are prescribed for violation of the law. Appropriate authorities and advisory committees have been appointed/constituted under the Act in all States/UTs.

RESEARCH AND EVALUATION

The Union Ministry of Health and Family Welfare has established a network of 18 Population Research Centres (PRCs) in 17 states including the National Capital Territory of Delhi. These PRCs are located in various universities (12) and other institutions (6) of national repute. These Centres carry out research on various topics of population stabilization, demographic, socio-demographic

surveys and communication aspects of population and family welfare programme. The PRCs are autonomous in their functioning. The Central Government provides 100 per cent financial assistance in the form of grant-in-aid on yearly basis. During 1999-2000, these Centres completed 151 research studies/papers.

INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

The Indian Systems of Medicine such as *Ayurveda*, *Siddha*, *Unani* and drugless therapies like *Yoga* and Naturopathy have been widely practised in India for centuries. These systems attained a high level of development centuries ago and were the only stream of health care in pre-British India. Homoeopathy, though relatively a new system of medicine which originated in Germany, has been widely accepted and practised in India. These systems offer a range of safe, sure, cost effective, preventive and curative therapies which could be useful in addressing many health problems in a cost effective manner.

In post-Independence India, the Government recognised the merit of each of the Indian Systems of Medicine & Homoeopathy (ISM&H) and made attempts to develop them as viable systems of medicine for the health care needs of our people. It was felt that the goal of the World Health Organisation of 'Health for All' cannot be achieved through the modern Allopathic system alone and there is need to involve the ISM&H practitioners in the national mainstream for achieving this goal. This has resulted in the recognition of our traditional systems of *Ayurveda*, *Siddha* & *Unani*, Homoeopathy, *Yoga* and Naturopathy as National Systems of Medicine along with Allopathy. This recognition has paved the way for the organised development of all these six systems of Medicine, each on the basis of its own individual philosophy, merit and strength. These systems use plant-based drugs though drugs of minerals and marine origin are also used. These systems have had a broad policy support of the Government. As a result, a good institutional framework exists today.

INSTITUTIONAL FRAMEWORK

The institutional framework consists of Statutory Regulatory Councils, Research Councils, National Institutes, Pharmacopoeial Laboratories and drug manufacturing units.

Statutory Regulatory Councils: The Central Council of Indian Medicines (CCIM) and the Central Council for Homoeopathy (CCH) were set up under the Acts of Parliament. *Ayurveda*, *Siddha* and *Unani* systems are within the ambit of the Central Council of Indian Medicines, and Homoeopathy is under the Central Council for Homoeopathy. These councils prescribe course curricula, evolve and maintain standards of education and maintain central registers of physicians of *Ayurveda*, *Siddha*, *Unani* and Homoeopathy respectively.

Research Councils : There are four apex research councils, namely, Central Council for Research in *Ayurveda* and *Siddha* (CCRAS), Central Council for

Research in *Unani* Medicines (CCRUM), Central Council for Research in Homoeopathy (CCRH) and Central Council for Research in *Yoga* and Naturopathy (CCRYN). CCRAS, CCRUM and CCRH conduct research through a number of units spread out in the country. These councils are engaged in conducting clinical research in health care, drug research covering survey and cultivation of medicinal plants, pharmacognosy, phyto chemistry, pharmacology, toxicology, drugs standardisation, literary research for revival of the ancient classical literature and research in ante-natal and post-natal care and the development of contraceptive drugs.

National Institutes : The Department of Indian Systems of Medicine & Homoeopathy has seven national institutes, namely, National Institute of Ayurveda, Jaipur; National Institute of Homoeopathy, Kolkata; National Institute of Unani Medicine, Bangalore; National Institute of Siddha, Chennai; National Institute of Naturopathy, Pune; Morarji Desai National Institute of Yoga; New Delhi and Rashtriya Ayurveda Vidyapeeth, New Delhi.

Drugs Regulation : The Indian Systems of Medicine & Homoeopathy (ISM&H) drugs are covered under Drugs & Cosmetics Act 1940. There is a separate Drugs Technical Advisory Board for *Ayurveda*, *Siddha* and *Unani* (ASU) drugs. Drugs manufacturers are licensed by the State Drugs authorities. Good manufacturing practices have been laid down for the manufacturing units.

Manufacturing Unit : Indian Medicine Pharmaceutical Corporation Limited, Mohan, Uttaranchal is engaged in the manufacturing of *Ayurveda* and *Unani* drugs according to classical formulation. The company manufactures over 300 *Ayurveda* and *Unani* drugs.

There is a huge health care infrastructure under ISM&H available in India consisting of 2,854 hospitals, 22,735 dispensaries, 9,496 pharmacies manufacturing drugs and 5.87 lakh practitioners of Indian medicine and Homoeopathy in the country.

An outlay of Rs 266.35 crore has been allocated under Plan during the Ninth Plan period. The Plan allocation for 2001-02 is Rs 120 crore.

THRUST AREAS FOR DEVELOPMENT

The Department of ISM&H has identified the following thrust areas for development and promotion : (1) Improvement and upgradation of standards of education of ISM&H; (2) Standardisation of Drugs and quality control; (3) Ensuring sustained availability of raw material, *i.e.*, medicinal plants, metal and minerals, materials of marine and animal origin, etc.; (4) Research & Development; (5) Information, Education and Communication; and (6) Participation of ISM&H in the National Health Care Programme and Family Welfare Programme.

STANDARDS OF EDUCATION

There are 396 under-graduate colleges and 55 post-graduate *Ayurvedic* colleges in the country. Twenty post-graduate colleges have also been established under *Unani*, Homoeopathy and *Siddha* systems. The Government has also set up national-level educational institutions for each system as model institutes to promote excellence in ISM&H education.

The Government of India has been providing financial assistance to under-graduate colleges. As a part of the continuing education and in order to instill confidence and to update the skills, a reorientation training programme for teachers, physicians and para-medics has been implemented. The State Governments sponsor teachers and physicians to these courses. Efforts are underway to have the pharmacy and nursing education regulated. In the field of Yoga and Naturopathy education, the course content has been worked out. The question of having a separate regulatory body is under examination. However, a mechanism is being evolved for granting accreditations to institutes conducting Diploma/Degree course pending establishment of a Statutory Regulatory Body for Yoga and Naturopathy. The Statutory Regulatory Bodies, namely, CCIM and CCH, lay down the minimum standards of education and norms, curriculum, etc., for our systems and register the practitioners of these systems.

STANDARDISATION OF DRUGS

Pharmacopoeia Committees of *Ayurveda*, *Siddha*, *Unani* and Homoeopathy have been evolving standards for drugs. Standards for 258 drugs have been published. Homoeopathy Pharmacopoeia Committee has evolved standards for 916 drugs contained in eight volumes and *Unani* Pharmacopoeia Committee has set down standards for 269 drugs. *Siddha* Pharmacopoeia Committee has evolved standards for 200 drugs. Pharmacopoeia Committees are taking forward the laying down of standards for more drugs. At present two drug testing laboratories of the Department, viz., Pharmacopoeial Laboratory for Indian Medicine, Ghaziabad and Homoeopathic Pharmacopoeia Laboratory, Ghaziabad are providing the technical support to these Pharmacopoeial Committees. A project has been prepared for strengthening these laboratories by providing additional infrastructure. Similarly, a scheme for strengthening drug-testing laboratories and drug manufacturing units of the States/UT Governments has been implemented for ensuring availability of quality drugs of *Ayurveda*, *Siddha* and *Unani* manufactured in state pharmacies. In order to accelerate the work of evolving of standards, research institutions/laboratories have been involved to work on the standards for 10 drugs each per year. Thirty-two such organisations have been provided financial assistance for evolving standards for 300 drugs. The drug research-units of the research councils are also engaged in this work.

Ayurveda/Siddha/Unani Drugs Technical Advisory Board and the Drugs Consultative Committee have been set up to advise the Government on matters relating to ISM drugs. A scheme for recognising Private Drug

Testing Laboratories for ASU drugs is under process to augment testing facilities.

RAW MATERIALS

Medicinal plants, minerals, metals and materials of marine and animal origin are the raw materials used in the preparation of ISM&H drugs. Eighty per cent of the drugs are based on medicinal plants. The Department has taken steps to enhance the supplies of medicinal plants by their conservation and preservation through *in situ* and *ex situ* cultivation, developing large-scale gardens of medicinal plants, etc. A special scheme to provide assistance to research organisations for development of agro-techniques has been introduced in which Government and semi-government organisations have been involved. Thirty-four such organisations are participating in the scheme for developing agro technique for 125 plants. A Medicinal Plants Board to coordinate conservation, cultivation, marketing, export, etc., in respect of medicinal plants has been set up.

RESEARCH AND DEVELOPMENT

The four apex councils, viz., (i) Central Council for Research in Ayurveda & Siddha (CCRAS); (ii) Central Council for Research in Unani Medicine (CCRUM); (iii) Central Council for Research in Homoeopathy (CCRH); and (iv) Central Council for Research in Yoga & Naturopathy (CCRYN) are carrying out research activities like clinical research, drug standardisation research, drug proving research, family welfare research, tribal research, etc. The CCRAS has 33 units in the country. The Council has patented 18 *Ayurvedic & Siddha* drugs. The CCRUM has a network of 32 institutions/units spread all over the country. This council is in the process of patenting the products developed by it. CCRH has a network of 50 institutes/units in the country. The CCRYN is providing grants to voluntary *yoga* and nature cure institutions for undertaking various activities, viz., conducting clinical research, strengthening patient care centres, running one-year diploma courses and conducting seminars/workshops/conferences, etc.

INFORMATION EDUCATION AND COMMUNICATION

The Indian Systems of Medicine & Homoeopathy can offer excellent and effective treatment for many diseases for which Allopathy has no cure. There is need to create awareness about the merits of these systems. ISM&H has brought out pamphlets on home remedies for common ailments in *Ayurveda* and *Unani*. The existing scheme for creating awareness and popularise these systems through NGOs has been made broad based.

The Department has also mounted its own website <http://mohfw.nic.in/ismh/> for wider dissemination of information of the departmental activities.

10 Welfare

INDIA is a welfare state, committed to the welfare and development of its people in general and of vulnerable sections in particular. The Preamble, Directive Principles of State Policy, Fundamental Rights and specific sections, namely, Articles 38, 39 and 46, in the Constitution of India, stand testimony to the commitment of the State to its people.

Welfare programmes in the beginning were directed to provide a few basic curative and rehabilitative services. Over the years, a developmental orientation in contrast to curative and custodial approach was given to welfare programmes. These programmes are oriented towards empowering the disadvantaged and marginalized sections of the society, *viz.*, scheduled castes, scheduled tribes, other backward classes, minorities, disabled, aged persons, street children and drug addicts.

In keeping with the thrust of the majority of welfare programmes to empower the weaker and socially and economically deprived sections of the society the Ministry of Welfare constituted on 25 September 1985 was renamed as the Ministry of Social Justice and Empowerment on 25 May 1998. Since 8 September 1998 the Ministry is also looking after Animal Welfare. The development of the Scheduled Tribes is now being looked after by the Ministry of Tribal Affairs, which was created on 13 October 1999.

The areas which are of concern to the Ministry of Social Justice and Empowerment are also those where a major role is played by the State governments. Thus the responsibility for implementation of the schemes is shared between the Central and State governments. The Central Government is responsible for formulating the related policies and programmes besides coordinating and promoting implementation of services by states.

WELFARE OF SCHEDULED CASTES

The scheduled castes (SC) are specified in accordance with Article 341 of the Constitution. According to 1991 census, the population of scheduled castes was 13.82 crore constituting 16.48 per cent of the country's total population of 84.63 crore. As compared to 1981 census (SC population of 15.75 per cent of the then total population), there has been a slight increase in SC population in terms of percentage. While the Constitution has prescribed certain protective measures and safeguards for these classes, successive Five Year Plans have regarded their progress as a major objective of national policy.

CONSTITUTIONAL SAFEGUARDS

The Constitution prescribes protection and safeguards for scheduled castes,

scheduled tribes and weaker sections either specially or by way of insisting on their general rights as citizens with the object of promoting their educational and economic interests and removing social disabilities. Main safeguards are : (i) abolition of untouchability and forbidding its practice in any form (Article 17); (ii) promotion of their education and economic interest and their protection from social injustice and all forms of exploitation (Article 46); (iii) throwing open by law of Hindu religious institutions of public character to all classes and sections of Hindus (Article 25(b)); (iv) removal of any disability, liability, restriction or conditions with regard to access to shops, public restaurants, hotels and places of public entertainment or use of wells, tanks, bathing *ghats*, roads and places of public resort maintained wholly or partially out of state funds or dedicated to the use of general public (Article 15 (2)); (v) curtailment by law in the interest of any scheduled tribes of general rights of all citizens to move freely, settle in and acquire property (Article 19 (5)); (vi) forbidding of any denial of admission to educational institutions maintained by the state or receiving grants out of state funds (Article 29(2)); (vii) permitting the state to make reservation for backward classes in public services in case of inadequate representations and requiring the state to consider claims of the scheduled castes and scheduled tribes in the making of appointments to public services (Articles 16 and 335); (viii) special representation in the Lok Sabha and State Legislative Assemblies to scheduled castes and scheduled tribes till 25 January 2000 (Articles 330, 332 and 335); (ix) setting up of tribal advisory councils and separate departments in states and appointment of a special officer at the Centre to promote their welfare and safeguard their interests (Articles 164 and 338 and Fifth Schedule); (x) special provision for administration and control of scheduled and tribal areas (Article 244 and Fifth and Sixth Schedules); and (xi) prohibition of traffic in human beings and forced labour (Article 23).

NATIONAL COMMISSION FOR SCs AND STs

By virtue of the Constitution (Sixty-fifth Amendment) Act, 1990, the Special Officer's post under Article 338 of the Constitution has been substituted by the National Commission for Scheduled Castes and Scheduled Tribes. The Commission has a Chairperson, a Vice-Chairperson and five other members to be appointed by the President. It shall be the duty of the Commission: (a) to investigate and monitor all matters relating to the safeguards provided for the scheduled castes and scheduled tribes under the Constitution or under any other law; (b) to enquire into specific complaints with respect to the deprivation of rights and safeguards of the scheduled castes and tribes; (c) to participate and advise on the planning process of socio-economic development of the scheduled castes and scheduled tribes; and to evaluate the progress of their development under the Union and any state; (d) to present to the President annually, and at such other times as the Commission may deem fit, reports upon the working of these safeguards; (e) to make in such reports/recommendations as to the measures that should be taken by the Union or any state for the effective implementation of those safeguards and other measures

for the protection, welfare and socio-economic development of the scheduled castes and scheduled tribes; and (f) to discharge such other functions in relation to the protection, welfare and development and advancement of the scheduled castes and scheduled tribes as the President may, subject to the provisions of any law made by Parliament, by rule, specify.

The President shall cause all such reports to be laid before each House of Parliament along with a memorandum explaining the action taken or proposed to be taken on the recommendations relating to the Union and the reasons for the non-acceptances, if any, on any of such recommendations. Where any such report or any part thereof, relates to any matter with which any State government is concerned, a copy of such report shall be forwarded to the Governor of the state who shall cause it to be laid before the legislature of the state.

The Commission shall while investigating and monitoring any matter relating to safeguards provided for scheduled castes and scheduled tribes under the Constitution or any other law for the time being in force or under any order of the Government have all powers of a civil court trying a suit and in particular in respect of the following matters, namely: (a) summoning and enforcing attendance of any person from any part of India and examining him on oath; (b) requiring the discovery and production of any document; (c) receiving evidence on affidavits; (d) requisitioning any public record or copy thereof from any court or office; (e) issuing summons for the examination of witnesses and documents; and (f) any other matter which the President may by rule, determine.

The Union and every State government shall consult the Commission on all major policy matters affecting scheduled castes and scheduled tribes.

PARLIAMENTARY COMMITTEE

The Government had set up three Parliamentary Committees, first in 1966, second in 1971 and third in 1973 to examine the implementation of the constitutional safeguards for welfare of scheduled castes and scheduled tribes. The Committee has since been constituted as a Standing Committee of Parliament on Labour and Welfare.

WELFARE DEPARTMENTS IN STATES

States and Union Territories have separate departments to look after the welfare of scheduled castes and scheduled tribes and other backward classes. Administrative set-up varies from state to state. In Bihar, Madhya Pradesh and Orissa separate ministers have been appointed to look after tribal welfare as prescribed in Article 164 of the Constitution. Some other states have set up committees of members of state legislatures on the pattern of the Parliamentary Committee at the Centre. All the States having scheduled areas including Tamil Nadu and West Bengal have constituted Tribal Advisory Councils as per the provisions in the Fifth Schedule to the Constitution to advise on matters pertaining to welfare and advancement of scheduled tribes.

VOLUNTARY ORGANISATIONS

A number of voluntary organisations also promote welfare of scheduled castes and scheduled tribes. Among them, the important organisations of all India character are: *Harijan Sevak Sangh*, Delhi; Indian Red Cross Society, New Delhi; Ramakrishna Mission, Narendrapur; *Bhartiya Adimajati Sevak Sangh*, New Delhi; Ramakrishna Mission, Puri, Silchar and Purulia; *Bhartiya Samaj Unnati Mandal*; Bhivandi and Servants of Society, Pune in Maharashtra. The Government also provides grants-in-aid to voluntary organisations of local character working among scheduled castes. During 2000-01, 340 voluntary organisations were given grant-in-aid to the tune of Rs 22.50 crore.

LEGISLATION AGAINST UNTOUCHABILITY

For enlarging the scope and making penal provisions more stringent, the Untouchability (Offences) Act, 1955 has been comprehensively amended and renamed as the Protection of Civil Rights Act, 1955 which came into force with effect from 19 November 1976. This Act provides for penalties for preventing any person on grounds of untouchability, from enjoying the rights accruing on account of abolition of untouchability. Enhanced penalties/punishments have been provided for subsequent offences.

The PCR Act, 1955 is administered by State governments. Under the provisions of Section 15A (4) of the Act, the Central Government places before each House of Parliament, an annual report on the working of the provisions of Section 15A of the Act. In pursuance of the provisions made under Section 15A (2) of the Protection of Civil Rights Act, 1955, Central assistance is given to State governments and Union Territory administrations for the measures undertaken by them to effectively implement the Act. Provisions for legal aid to scheduled castes in cases relating to untouchability have been made by 23 States/UTs. Special cells/squads have been created by 19 States for initiating and exercising supervision over prosecution for contravention of the provisions of the PCR Act. Twenty States/UTs have set up committees at various levels to make periodical review of the problems of untouchability and cases related to it and also suggest various measures for effective implementation of the PCR Act. Matching Central assistance is provided to the States and on cent-per cent basis to UTs for implementation of the PCR Act. Thirty-six special courts/special mobile courts have been set up in untouchability-prone districts of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh and Rajasthan for expeditious disposal of such cases. Necessary guidelines and instructions are issued to states from time to time for effective implementation of the provisions of the PCR Act.

MEASURES TO CHECK ATROCITIES AGAINST SCs AND STs

Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989 which came into force on 30 January 1990, specifies offences which are considered as atrocities and provides for deterrent punishments for commission of the same. Comprehensive Rules were also framed under the SCs & the STs

(POA) Act in 1995, which among other things provide for relief and rehabilitation of the affected persons. It also envisages preventive measures, and states have to evolve schemes, among others, for economic and social rehabilitation of such victims. All States and Union Territories except Arunachal Pradesh and Nagaland have specified special courts for trial of offences under this Act. Exclusive special courts have been set up in Andhra Pradesh, Madhya Pradesh, Rajasthan, Gujarat, Karnataka, Tamil Nadu and Uttar Pradesh.

Under the Centrally-sponsored scheme for implementation of the Act, State governments are funded on 50:50 basis and Union Territories are given cent-per cent assistance.

SPECIAL CENTRAL ASSISTANCE

This Central scheme is the most important programme of the Ministry of Social Justice and Empowerment for the alleviation of poverty among scheduled castes people. The underlying objective behind Special Central Assistance (SCA) which provides cent-per cent grant to States and Union Territories as an additive to their special component plans is that it would be used to give an added thrust to the development programmes for scheduled castes people with reference to their occupational pattern and the need for increasing the productivity of and income from their limited assets by taking up family-oriented schemes for them. The SCA is used to fill the critical gaps and vital missing inputs in family-oriented income-generating schemes so as to make the schemes more meaningful and effective. This scheme was started in 1979-80 with a token provision of Rs five crore. The State governments and Union Territory administrations are required to disburse special Central assistance to various sectors and agencies including Scheduled Castes Development Corporations (SCDCs), which are involved in the implementation of economic development programmes for scheduled castes. During 2000-01, Central assistance of Rs 450.39 crore was released.

COACHING AND ALLIED SCHEME

The Coaching and Allied Scheme was started in the Fourth Five Year Plan for imparting training to scheduled castes/scheduled tribes in respect of various competitive examinations held by recruiting bodies such as Union Public Service Commission, State public service commissions, public-sector undertakings, banking service recruitment boards and similar agencies. Grant is given to the Pre-Examination Training Centres (PETCs) which are run either by the State/UT governments or universities or private institutes. Financial assistance is provided to State governments on a matching basis 50:50 over and above their committed liabilities. The UT administrations, universities and private institutes are given cent per cent grants. Some of the coaching centres have made considerable contribution enabling SC/ST candidates to get into IAS and allied services, medical, engineering and banking services. During the year 2000-01, Rs 2.25 crore were released.

BOOK BANK SCHEME

The Book Bank Scheme is intended to provide text-books required for the students belonging to SCs/STs pursuing medical and engineering degree courses. From 1991-92 agricultural, veterinary and polytechnic courses have also been included under the scheme. A group of two students are provided one set of text-books. During 2000-01, Rs 2.48 crore were released.

PRE-MATRIC SCHOLARSHIPS

Begun in 1977-78, this scheme is for educational development of those who are engaged in the so-called unclean occupations, viz., scavenging of dry latrines, tanning, flaying and sweeping with traditional links with scavenging. The scheme as modified with effect from 1 November 1991 provides scholarship of Rs 25 per month in classes I to V, Rs 40 per month in classes VI to VIII and Rs 50 per month in classes IX to X, in respect of day-scholars. For hostellers, a scholarship of Rs 200 per month in classes III to VIII and Rs 250 per month in classes IX to X is provided. An *ad-hoc* grant of Rs 500 per annum is also provided to day-scholars as well as hostellers. The scheme was further modified with effect from 25 February 1994. The income ceiling has been removed. There is no restriction as to the number of children of same parents who would be eligible for scholarship up to class VIII, subject, however, to the condition that if a third or subsequent child is born after 1 April 1993, a total of only two children in the family would be eligible for scholarship. In respect of classes IX and X only two children of the same parents would be eligible for scholarship. The additional provisions for students amongst target groups with disabilities have also been introduced with effect from 1 April 1998, keeping in view the provisions of the persons with disabilities. During 2000-01, Central assistance of Rs 11.63 crore was released benefitting 4.41 lakh (anticipated) students.

POST-MATRIC SCHOLARSHIP FOR SC STUDENTS

The scheme was introduced in 1944-45 with the objective of providing financial assistance to students studying at post-matriculation stages in different schools and colleges so as to enable them to complete their education. Beginning with mere 114 students in 1944-45, the scheme is presently covering nearly 15 lakh students. During 2000-01, Central assistance of Rs 114.15 crore was released. The existing income ceilings of up to Rs 60,095 per annum has been linked with the consumer price index for industrial workers up to October 1999. All children of the same parents/guardians are eligible to get the benefit of the scheme, if otherwise eligible.

LIBERATION AND REHABILITATION OF SCAVENGERS

A national scheme of liberation and rehabilitation of scavengers and their dependents assists the scavengers towards their rehabilitation in alternate dignified occupations. Whereas 100 per cent Central assistance is provided for training of scavengers towards their rehabilitation, the unit project cost is up to Rs 50,000, which is financed by way of subsidy up to Rs 10,000 besides

margin money loans and bank loan. The concept of sanitary marts was suggested to States by forming viable groups of scavengers. The sanitary marts have provided entrepreneurial opportunities to scavengers and are now functioning profitably in the States of Andhra Pradesh, Tamil Nadu and Uttar Pradesh. During 2000-01, Rs 60.92 crore were released to the States for implementation of the scheme.

NATIONAL OVERSEAS SCHOLARSHIP AND PASSAGE GRANTS FOR HIGHER EDUCATION

The scheme provides financial assistance to meritorious selected students for pursuing higher studies abroad in specified fields of Masters level courses, Ph.D and Post Doctoral research programmes in Engineering, Technology and Science only. The modified scheme would provide maintenance allowance of US \$ 7,700 per annum or Pounds Sterling 5,000 per annum for candidates in U.K., for courses covered under the scheme. The contingency allowance for books, essential apparatus, study tour charges, etc., has been raised from US \$ 385 to US \$ 500 per annum or Pound Sterling 325 per annum, for candidates in U.K. The modified scheme would also provide reimbursement of actual visa fees in Indian rupees. The scheme also provides air passage by the shortest route and by economy class, by arrangements with the national carrier, poll tax, equipment allowance and incidental journey expenses, actual fees charged by the institution and the medical insurance premia. The awardees are also permitted to supplement their prescribed allowance by undertaking research/teaching assistantship up to US \$ 2,400 per annum or Pounds Sterling 1,560 per annum, for candidates in U.K. and beyond these ceilings, the maintenance allowance will be proportionately reduced. The financial assistance is available to the finally selected students sent abroad, for the maximum period of four years for Ph.D research, for three years for Master's Programme and for 1 and 1/2 years for Post Doctoral research. The income of the awardees if employed, or of their parents/guardians should not exceed Rs 12,000 per month. Not more than one child of the same parents/guardians is eligible to get benefits of the scheme. The prospective awardee not more than 35 years of age can get only one time benefit. Thirty scholarships (SC-17; ST-9; SC (Convert)-2; Denotified ST-1; and landless agricultural labourer and traditional artisans-1) are provided every year. From inception of the scheme in 1954-55, a total of 758 scholarships have been offered, out of which 532 scholarships have been availed of up to 1999-2000.

STATE SCHEDULED CASTES DEVELOPMENT CORPORATION

The scheme for assistance to the state-level scheduled castes development corporations (SCDCs) was introduced in 1978-79 to uplift the SC/ST population living below the poverty line. At present SCDCs are functioning in 25 States/ Union Territories. The Centre contributes 49 per cent to the authorised share capital of the SCDC against the 51 per cent contributed by the State government. In 2000-01, an amount of Rs 27.63 crore was released as Government of India's contribution.

BABA SAHEB DR AMBEDKAR FOUNDATION

The Foundation was set up on 24 March 1992 as a registered society. The Foundation has been entrusted with the responsibility to manage, administer and carry on the schemes and programmes identified during the centenary celebrations of *Bharat Ratna* Baba Saheb Dr B.R. Ambedkar. These are: (i) Dr Ambedkar National Public Library in Delhi; (ii) Dr Ambedkar Chairs in universities/institutions for research on the thoughts and ideals of Baba Saheb; (iii) Dr Ambedkar National Award for social understanding and uplift of weaker sections; (iv) Dr Ambedkar International Award for social change; (v) Publications of the Collected Works of Baba Saheb Dr Ambedkar in Hindi and other Indian languages; (vi) Putting up Memorial for Dr Ambedkar at 26, Alipur Road, Delhi; and (vii) various activities like organising seminars, conferences, workshops, exhibitions and *melas* on Dr Ambedkar's life and mission.

SCHEDULED TRIBES DEVELOPMENT

Constitution of India guarantees various socio-economic and political rights to the Scheduled Tribes as enshrined in various Articles such as 14, 16, 46, 244, 275(1), 330, 338, 339, 340 and 342, etc. Extension of the 73rd and 74th amendments of the Constitution to the Scheduled Areas through the Panchayats (Extension to the Scheduled Areas), Act, 1996 ensures effective participation of the tribals in the process of planning and decision-making. In order to give more focussed attention to the development of Scheduled Tribes, a separate ministry known as the Ministry of Tribal Affairs was constituted in October 1999. The new Ministry, carved out of the Ministry of Social Justice and Empowerment, is the nodal Ministry for overall policy, planning and coordination of programmes and schemes for the development of Scheduled Tribes. It also supports and supplements the efforts of other Central Ministries/Departments as well as States/Union Territories for the development of these communities.

The all-India literacy rate of Scheduled Tribes as per 1991 Census was 29.60 against the national average of 52.21 per cent. The gap between percentage of literacy of tribal women and general women is still wider. It is only 18.18 per cent against 39.29 per cent of general female literacy in the country.

There are now 194 Integrated Tribal Development Projects (ITDPs) in the country, where the ST population is more than 50 per cent of the total population of the blocks or groups of block. During the Sixth Plan, pockets outside ITDP areas, having a total population of 10,000 with at least 5,000 scheduled tribes were covered under the Tribal Sub-Plan under Modified Area Development Approach (MADA). So far 252, MADA pockets have been identified in the country. In addition, 79 clusters with a total population of 5,000 having 50 per cent scheduled tribes have been identified.

SPECIAL CENTRAL ASSISTANCE

Special Central Assistance is given to States/UTs to supplement their efforts

in tribal development. This assistance is basically meant for family-oriented income-generating schemes in the sectors of agriculture, horticulture, minor irrigation, soil conservation, animal husbandry, forests, education, cooperatives, fisheries, village and small scale industries and for minimum needs programme. During 2000-01, an amount of Rs 400 crore was released to the States/UTs. Grants are also given to States/UTs, under the first proviso to article 275(1) of the Constitution to meet the costs of projects for tribal development and for raising the level of administration of Scheduled Area therein on par with the rest of the State/UT. Part of the funds are utilised for setting up of residential schools for providing quality education to tribal students. An amount of Rs 191.29 crore was provided as grants to States/UTs during 2000-01.

SCHEME FOR PRIMITIVE TRIBAL GROUPS

Based on the pre-agricultural level of technology, low level of literacy, declining or stagnant population, 75 tribal communities in 15 States/UTs, have been identified and categorised as Primitive Tribal Groups. A new Central Sector scheme has been introduced for all round development of these groups from 1998-99 under which financial assistance is made available to Integrated Tribal Development Projects, Tribal Research Institutes and Non-Governmental Organisations for undertaking projects/activities not covered by any of the existing schemes. Financial assistance of Rs 10.71 crore has been sanctioned under the scheme during 2000-01.

TRIBAL RESEARCH INSTITUTES

Fourteen Tribal Research Institutes(TRIs) have been set up by Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, West Bengal, Uttar Pradesh, Manipur and Tripura. These Institutes are engaged in providing planning inputs to the State Governments, conducting research and evaluation studies, collection of data, codification of customary law and conduct of training, seminars and workshops. Some of these Institutes are also having museums exhibiting tribal artifacts. During 2000-01, a sum of Rs 97.08 lakh was released to the State Governments towards support to these institutes.

GIRLS/BOYS HOSTELS FOR STs

Girls hostels scheme was started in Third Five Year Plan with the aim of providing residential facilities to tribal girls in pursuit of education. Central assistance of 50 per cent cost of construction to the States, cent per cent to the Union Territories is provided under the scheme. Boys hostels scheme was started in 1989-90 under the same pattern as the girls hostels. During 2000-01, an amount of Rs 4.85 crore was released for construction of 26 boys and girls hostels.

ASHRAM SCHOOLS IN TSP AREA

This Centrally-sponsored scheme was started in 1990-91 to provide Central assistance to the States and Union Territories on 50 per cent and 100 per cent basis, respectively. During 1999-2000, Rs 5.32 crore was released for construction

of 36 Ashram schools. No funds were, however, released under the scheme during 2000-01.

VOCATIONAL TRAINING IN TRIBAL AREAS

This scheme under the Central Sector introduced in 1992-93 aims at developing the skills of the tribal youth in order to gain employment/self-employment opportunities. The scheme envisages setting up of vocational training centres (VTCs). During 2000-01, an amount of Rs 2.54 crore was released for 32 vocational training centres.

EDUCATION OF ST GIRLS IN LOW LITERACY POCKETS

This scheme launched in 1993-94 aims at raising the literacy level of tribal females in 48 identified tribal districts in eight States with female literacy below two per cent. This scheme was revised in July 1998 and now covers 134 districts having ST women literacy of less than 10 per cent in 14 States. The scheme envisages setting up of residential educational complex from first to fifth standard. The scheme is implemented through the voluntary organisations and State Governments/UTs. During 2000-01 an amount of Rs 1.47 crore was released for 38 complexes.

TRIBAL COOPERATIVE MARKETING DEVELOPMENT FEDERATION OF INDIA

The Tribal Cooperative Marketing Development Federation of India (TRIFED) was set up by the Government of India in 1987, with the prime objective of providing marketing assistance and remunerative prices to ST communities for their minor forest produce and surplus agricultural produce and to wean them away from exploitative private traders and middlemen. The federation is a national level cooperative apex body functioning under the Multi-State Cooperative Societies Act, 1984. The authorised share capital of TRIFED is Rs 100 crore and the paid up capital is Rs 99.98 crore. The Government of India's contribution is Rs 99.75 crore and the balance of Rs 0.23 crore has been contributed by other shareholders.

GRANT-IN-AID FOR MINOR FOREST PRODUCE OPERATIONS

This is a Central Sector scheme with cent-per cent grant available to the State Tribal Development Cooperative Corporations (STDCCs), Forest Development Corporations (FDCs), and Minor Forest Product (Trading and Development) Federations (MFPTDFs) for taking up the minor forest produce (MFP) operations. Under this scheme grants can be utilised by the States for (i) strengthening the share capital base of STDCCs for increasing the volume of procurement of MFPs; (ii) construction of scientific warehouses; (iii) establishing process industries for value addition to MFP items; and (iv) research and development activities. An amount of Rs 8.42 crore was released to different State Corporations during 2000-01.

VILLAGE GRAIN BANK SCHEME

A Central Sector Scheme of Grain Banks in tribal villages was launched in 1996-97. The scheme was started on a pilot basis in selected areas out of the

areas identified by CPC for preventive measures against deaths of children in remote and backward tribal areas by providing a safeguard against fall in nutritional standards of Scheduled Tribes living in remote rural areas. The funds are released by the Ministry through the Tribal Cooperative Marketing Development Federation of India (TRIFED), which is the channelising agency under the scheme. An amount of Rs 3.15 crore was released during 2000-01 under the scheme. So far, 534 Grain Banks have been set up in the country.

AID TO VOLUNTARY ORGANISATIONS WORKING FOR STs

The Ministry gives grant-in-aid to voluntary organisations working for the welfare of the Scheduled Tribes for projects like residential schools, hostels, medical units, computer training units, shorthand and typing training unit, *balwadis*/creches (in areas not covered by ICDS programmes), libraries and audio-visual units. The grant is generally restricted to 90 per cent of the approved total cost of the project and the balance 10 per cent is borne by the grantee organisations. During 2000-01 an amount of Rs 21.88 crore was released to 228 NGOs.

POST MATRIC SCHOLARSHIP

The scheme was introduced in 1944 for providing financial assistance to SC/ST students pursuing post-matriculation recognised courses including professional, technical as well as non-professional and non-technical courses. The scheme is implemented by State Governments and UT administrations which receive 100 per cent financial assistance over and above the committed liability. Rs 63.10 crore were released during 2000-01 benefiting an estimated 3.66 lakh ST students.

OTHER EDUCATIONAL SCHEMES

The Ministry of Tribal Affairs is also implementing schemes of National Overseas Scholarship for higher studies abroad, book bank, coaching and allied and upgradation of merit for the benefit of ST students.

NATIONAL SCHEDULED TRIBES FINANCIAL DEVELOPMENT CORPORATION

The National Scheduled Tribes Financial Development Corporation (NSTFDC) has been set up by the Government of India in April 2001 as a Government company by bifurcating the National Scheduled Castes and Scheduled Tribes Financial Development Corporation. NSTFDC is a fully owned Government of India undertaking with an authorised share capital of Rs 500 crore. It is an apex institution for financing economically viable projects to Scheduled Tribes. The Corporation extends financial assistance to Scheduled Tribes at concessional rate for income generating schemes costing up to 10 lakh per unit, provides grants for skill development programme for STs and fill the critical gaps by providing backward and forward linkages for activities undertaken by the target group. Members of the Scheduled Tribes whose annual family income does not exceed double the poverty-line income limit,

are eligible for financial assistance in the fields of agriculture and allied activities, manufacturing and service sector activities.

WELFARE OF BACKWARD CLASSES

Article 15(4) of the Constitution enjoins upon the state the creation of special provisions for the advancement of any socially and educationally backward classes of citizens or for the scheduled castes and scheduled tribes. Another Article 16(4) further enables the state for making provisions for the reservation of appointments or posts in favour of any backward class of citizens, which in the opinion of the state is not adequately represented in the services under the state. The other provisions of the Constitution having a bearing on Article 16 or Articles 38, 46 and the set of articles in part XVI clause (i) of Article 38 makes it obligatory for the state to "strive to promote the welfare of the people by securing and protecting as effectively as it may a social order, in which Justice, Social, Economic and Political shall inform all the institutions of the National Life". Article 46 further contains a very significant directive regarding promotion of educational and economic interests of other weaker sections and protects them from social injustice and all forms of exploitation. Part XVI of the Constitution contains "special provisions relating to certain classes" and under this part Article 340 envisages the appointment of a Commission to investigate the conditions of Backward Classes.

The Government considered seriously the objectives of Articles 15 and 16 of the Constitution and the Second Backward Classes Commission (Mandal Commission) was appointed in 1979. The terms of reference of the Commission included (i) determination of the criteria for defining the socially and educationally backward classes, (ii) steps to be taken for the advancement of socially and educationally backward classes, (iii) desirability or otherwise of making provision for the reservation of appointments in favour of backward classes which are not adequately represented in public service and (iv) presenting a report setting out the facts as found by the Commission making such recommendations. The Commission submitted its Report on 31 December 1980.

After long deliberations on the recommendations of the Mandal Commission, it was decided by the then Government to implement the same and an Office Memorandum on 13 August 1990 was issued providing 27 per cent reservation for Other Backward Classes (OBCs) in civil posts and services under the Government of India. As a consequence of this Memo, there was widespread protest against the reservation to Other Backward Classes and several Writ Petitions were filed in Supreme Court questioning the said reservation. All the Writ Petitions were disposed of by the Honourable Supreme Court by its judgement dated 16 November 1992. By a majority judgement, the Supreme Court held that the implementation of the Office Memorandum dated 13 August 1990 shall be subject to the exclusion of socially advanced persons (Creamy Layer) amongst the Other Backward Classes. The Supreme Court also directed the Government and each of the

State governments to set up a permanent body for reflecting upon the request for inclusion and complaints of over-inclusion and under-inclusion in the list of Other Backward Classes and accordingly a National Commission for Backward Classes (NCBC) was set up on 14 August 1993, which had been reconstituted on 28 February 1997. As per provisions of NCBC Act, 1993, every member holds office for a term of three years from the date of assuming office. The Commission was further reconstituted on 28 July 2000.

The Government of India set up an Expert Committee in February 1993 to identify the Creamy Layer and on the basis of its recommendations, issued the Office Memorandum dated 8 September 1993 proving *inter alia* 27 per cent reservation for Other Backward Classes in services under the Government of India, subject to the exclusion of the advanced persons amongst the OBCs (Creamy Layer).

In order to achieve the full implementation of 27 per cent reservation to Other Backward Classes the following benefits have also been extended to them : (i) The Government has provided OBC candidates the benefit of relaxed standards in respect of written examinations and interviews as in the case of SC/ST candidates with effect from 13 October 1994; (ii) On 25 January 1995 the Government issued instructions relaxing the upper age-limit for OBC candidates in direct recruitment by three years and the number of attempts for OBC candidates who are otherwise eligible has been increased to seven in respect of Civil Services Examinations.

As per the directions of the Supreme Court the Government of India has notified the Central List of OBCs comprising in first phase, the castes/communities which are common both in the list prepared by the Mandal Commission and State Backward Classes List for 21 States and five Union Territories. During 2000-01, two notifications on inclusion/amendment in the Central List of OBCs have been issued by the Government.

NATIONAL BACKWARD CLASSES FINANCE AND DEVELOPMENT CORPORATION

The National Backward Classes Finance and Development Corporation (NBCFDC) was set up by the Government of India under the then Ministry of Welfare on 13 January 1992 as a company, not for profit, under Section 25 of the Companies Act, with the objective of providing concessional finance to the members of backward classes living below double the poverty line for their socio-economic development by extending them loans for income generating schemes. The authorised share capital of the Corporation was Rs 200 crore, which has been raised to Rs 700 crore. The issued and paid up capital of the Corporation was Rs 290.40 crore during 1998-99 which has now been raised to Rs 390.40 crore.

The Corporation provides financial assistance in terms of loans/grants to the eligible beneficiaries in the following sectors: agriculture and allied; artisan and traditional occupations; technical trades; small business; small-

scale industries and transport services. The cumulative disbursement by Corporation has gone up to Rs 522.45 crore covering 3,35,631 beneficiaries up to 2000-01.

The Corporation has launched a special scheme for eligible women beneficiaries of backward classes under the name of *Swarnima* who can get financial assistance at concessional rate of interest up to Rs one lakh. The SCAs have been directed to ensure 30 per cent coverage of women beneficiaries under NBCFDC scheme, out of which 5 per cent will be covered under *Swarnima* scheme.

SCHEMES FOR THE WELFARE OF THE OBCs

The following Schemes were launched in 1998-99 for the welfare of OBCs by the Government of India.

- (a) Pre-Examination Coaching : The objective of the scheme is to coach candidates belonging to Other Backward Classes (OBCs) to enable them to compete in various competitive/entrance examinations. The candidates whose parents'/guardians' total income including the income of the candidates is below Rs one lakh annually are eligible for admission in the pre-examination coaching centre. An amount of Rs one lakh was released to one organisation under the scheme in 2000-01.
- (b) Hostels for OBC Boys and Girls : The hostels under the scheme will be constructed in States/UTs having a large OBC population but inadequate hostel facilities. The hostels will be constructed for middle, secondary, college and university level students. At least one third of the hostels to be set up will be exclusively for girls. Five per cent of the total seats will be reserved for disabled students. The scheme would, however, not cover students belonging to the Creamy Layer. Central assistance for construction will be 50 per cent and the remaining cost will be borne by the concerned State government. Hundred per cent Central assistance will be given to the Central government institutions and UTs setting up such hostels. The expenditure on procurement of land, staffing and other maintenance shall be borne by the State government/UT concerned. An amount of Rs five crore was released under the scheme to Karnataka, Tripura, Tamil Nadu and Manipur in 2000-01.
- (c) Pre-matric Scholarship for OBCs : Scholarship award will be sanctioned to students whose parents'/guardians' income does not exceed Rs 44,500 per annum. The scholarships are given to the students in class-I or any subsequent class of pre-matric stage to day-scholars and class-II or any subsequent class of pre-matric stage to hostlers. The scholarship will terminate at the end of Class X. The scholarship will be for 10 months in a year. The scholarship will be applicable to the institutions recognised by the concerned State government/UTs. The Central assistance will be 50 per cent. An amount of Rs six crore was released under the scheme to States of Karnataka, Tripura, Tamil Nadu and Manipur in 2000-01.
- (d) Post-Matric Scholarships to the OBCs : The scheme provides financial

assistance to the OBC students at post matriculation/post secondary stage to enable them to complete their education. Hundred per cent Central-assistance for the scholarship will be provided to the State governments/UTs to which the applicant belongs. The Central scholarships will be open to Indian nationals belonging to OBCs studying in recognised institutions. Students whose parents'/guardians' income does not exceed Rs 44,500 per annum will be entitled for scholarships. An amount of Rs 8.99 crore was released under the scheme to Andhra Pradesh, Karnataka, Manipur, Goa, Assam, J&K and UP in 2000-01.

(e) Assistance to Voluntary Organisations for Welfare of OBCs : The scheme involves the voluntary sector to improve educational and socio-economic conditions of the OBCs to get them gainfully employed. Assistance will be given to establish centres and develop services which equip the OBCs to start income generating activities. The quantum of assistance is determined on merit by the Government of India, which may be up to 90 per cent of the approved expenditure. An amount of Rs 1.57 crore was released under the scheme for 80 projects run by non-governmental organisation in 2000-01.

WELFARE OF MINORITIES

The Government has notified five communities namely, Muslims, Sikhs, Christians, Buddhists and Zoroastrians as Minorities at the national level. As per Census of 1991 population of minority groups constitutes 17.17 per cent of the total population of the country. The Constitution of India protects the interests of minorities and recognises their rights to conserve their languages, scripts or culture and establish and administer educational institutions of their choice.

To evaluate the working of the various safeguards in the Constitution for the protection of religious minorities and to make recommendations to ensure effective implementation and enforcement of all the safeguards and laws, a Minorities Commission was set up in January 1978. The Commission reviews the implementation of policies of the Union and the State governments towards minorities and submits annual reports to the Government. The National Commission for Minorities Act, 1992 was passed by the Parliament. Under this Act, the National Commission for Minorities was constituted on 17 May 1993 with statutory status replacing the erstwhile Commission. The Commission has a Chairperson, a Vice-Chairperson and five members to be nominated by the Central government. The National Commission has been reconstituted with effect from 21 January 2000.

The Commissioner for Linguistic Minorities appointed under Article 350-B of the Constitution investigates all matters relating to the safeguards provided for linguistic minorities. He looks into representations and complaints received from various associations and individuals belonging to linguistic minorities. The Commissioner has his headquarters at Allahabad, with regional offices at Kolkata, Belgaum and Chennai. So far 35 reports have been laid before the Parliament.

The 15-Point Programme for Welfare of Minorities is based on a three pronged approach, namely: (i) to tackle the situation arising out of communal riots and also to prevent communal riots; (ii) ensuring adequate representation of the minority communities in employment under the Central and State governments as well as Public Sector Undertakings; and (iii) other measures aimed at socio-economic development of Minorities. The programme is being implemented by the State governments and Union Territories and the concerned Central Ministries/Departments. Action is being taken to recast the ongoing 15 Point Programme so as to make it a more effective instrument for the welfare of minorities.

For improving the employability of minorities in public employment and increasing their intake in professional courses, a pre-examination coaching scheme is being implemented by the Ministry of Social Justice and Empowerment since 1992-93. During the Ninth Plan provision of Rs 12 crore has been made of which Rs 8.20 crore has been released for training 21,710 candidates of the weaker sections among minorities up to March 2001. The Government has approved area-based approach for socio-economic development of minority concentration areas. In the first phase, 41 districts identified on the basis of 1971 Census would be taken up.

NATIONAL MINORITIES DEVELOPMENT AND FINANCE CORPORATION

The Government has set up a National Minorities Development and Finance Corporation with an authorised share capital of Rs 500 crore. The Corporation would provide economic and developmental activities for the benefit of backward sections among the minorities, preference being given to occupational groups and women among minorities. The Government of India have raised the level of its contribution from Rs 125 crore to Rs 300 crore subject to pro-rata contribution from the State governments/UT administrations towards the share capital of the Corporation. During 2000-2001, the Corporation disbursed Rs 72.44 crore as loan covering 20,274 beneficiaries. The cumulative assistance provided by the Corporation since 1994-95 amounts to Rs 296.78 crore for 86,874 beneficiaries. Under Micro-credit scheme, a sum of Rs 1.58 crore benefiting 2,697 beneficiaries has been released to 52 NGOs, since inception.

WAKFS

Wakfs are permanent dedication of movable or immovable properties for purposes recognised by the Muslim Law as religious, pious or charitable. Apart from their religious aspect, the Wakfs are also instruments of social and economic upliftment. Better management of these institutions and fuller realisation of their objectives contribute to development and progress of the society. These relate to legislation to strengthen the effectiveness of the Wakf law ensuring early completion of survey of Wakf properties by the State governments.

THE WAKF ACT, 1995

Administration of Central Legislation for Wakfs is the responsibility of the

Ministry of Social Justice and Empowerment. In order to further strengthen the administration of Wakfs a fresh piece of legislation was passed by Parliament and enacted during 1995. This is known as the Wakf Act, 1995. With its enforcement in the country with effect from 1 January 1996 the earlier Central Laws on Wakf, namely, the Wakf Act, 1954 and the Wakf (Amendment) Act, 1984, stand repealed. The new Wakf Act, 1995 extends to the whole of the country except the State of Jammu and Kashmir. It envisages a decentralised set-up and also provides for democratization of the Wakf Boards. While *Mutawali* (Manager) of each individual Wakf retains his autonomy in the discharge of his responsibilities, general superintendence of all Wakfs in a state vests in the Wakf Board, set up by each State Government which has to ensure that the Wakfs are properly maintained and administered and that their income is duly accounted to objectives for which such Wakfs were created. The Board has its own office and staff and its own funds composed of a statutory contribution released from different Wakfs. Overall supervision of the Wakf Boards vests in the concerned State Government, which apart from appointing members of the Board and its Chief Executive Officer (Secretary), also receives the annual budget of the Board and appoints auditors for auditing its accounts. It also has powers to issue directions to the Board and, in certain cases, supersede it. The Central Government has powers to coordinate the functions of the Central Wakf Council and the State Wakf Boards in so far as these relate to secular activities of the Wakfs. State governments of Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Meghalaya, Manipur, Orissa, Tamil Nadu, West Bengal, Kerala, Rajasthan, Tripura, Uttar Pradesh and the UT Administration of Dadra and Nagar Haveli, Lakshadweep, Andaman & Nicobar Islands and NCT of Delhi have since constituted new Wakf Boards under the provisions of the Wakf Act, 1995. State governments of Andhra Pradesh, Gujarat, Karnataka, Manipur, Meghalaya, Madhya Pradesh, Rajasthan, Tamil Nadu, Uttar Pradesh, Kerala and UTs of Lakshadweep and NCT of Delhi have also established Wakf Tribunals under the new Act. The Central Government is advised on matters relating to administration of Wakfs and working of Wakf Boards in the country by a statutory body known as the Central Wakf Council, which is headed by the Union Minister in charge of the subject of Wakf. Central Wakf Council has been re-constituted on 26 June 1997 under the provisions of the Wakf Act, 1995.

DURGAH KHWAJA SAHEB

The internationally famous Wakf, namely, Durgah of Hazrat Khwaja Moinuddin Chisti at Ajmer is governed by the Durgah Khwaja Saheb Act, 1955. This endowment is managed by a Centrally appointed committee known as Durgah Committee which is assisted by an officer known as *Nazim*. The Committee has its own funds and, among other things, looks after the welfare of devotees visiting the Durgah. It runs two dispensaries and has constructed a multistoried guest-house complex to provide accommodation at economical rates to pilgrims. Up to December 2000, an amount of Rs 1.48 crore was

received by way of donations, contributions and rent from Durgah Guest House. The Durgah Committee sanctioned a budget of Rs 2.18 crore towards expenditure on upkeep and maintenance of Durgah Sharif during 2000-2001.

MAULANA AZAD EDUCATION FOUNDATION

Maulana Azad Education Foundation has been set up as a society with the objective of promoting education amongst the educationally backward sections of the society, minorities in particular and others in general. The Government is giving grants-in-aid to the Foundation for building up a 'Corpus Fund' for financing its different activities. Up to 2000-01, the total corpus amounted to Rs 70.01 crore. The Foundation is being given annual recurring grant equivalent to the interest of Rs 30 crore from 1998-99. Up to 31 March 2001, the Foundation has sanctioned Rs 49.85 crore to 355 NGOs and released Rs 39.94 crore to 336 NGOs.

RESERVATION IN SERVICES

Article 16(4) of the Constitution permits reservation in favour of any backward class of citizens which in the opinion of the state is not adequately represented in services under the state. In pursuance of this provision, the Government has made reservation for scheduled castes (SCs), scheduled tribes (STs) and other backward classes (OBCs) in services under its control. In addition, reservation is also provided to the physically handicapped and ex-servicemen in certain categories of posts. The quantum of reservation to scheduled castes (SCs), Scheduled Tribes (STs) and other backward classes (OBCs) in direct recruitment on all-India basis by open competition is 15 per cent, 7.5 per cent and 27 per cent respectively. In direct recruitment on all-India basis otherwise than by open competition, the reservation is 16.66 per cent for SCs, 7.5 per cent for STs and 25.84 per cent for OBCs. In case of promotion percentage of reservation for SCs and STs is 15 and 7.5 respectively. There is no reservation for OBCs in case of promotion. Three per cent vacancies are kept reserved for physically handicapped. Reservation is also available to ex-servicemen.

Article 335 of the Constitution provides that the claims of the members of the scheduled castes (SCs) and scheduled tribes (STs) shall be taken into consideration, consistent with maintenance of efficiency of administration in making appointment to posts and services in connection with the affairs of the Union or of the State. Proviso to Article 335 provides that nothing in that Article shall prevent in making of any provision in favour of the members of the scheduled castes and scheduled tribes for relaxation in qualifying marks in any examination or lowering the standards of evaluation, for reservation in matters of promotion. Articles 341 and 342 of the Constitution define as to who would be the SCs and STs with respect to any State or Union Territory. A list of OBCs has been prepared by the Government. The inter-state area restrictions have been imposed so that the people belonging to the specific community residing in a specific area which has been assessed to qualify for SC, ST and OBC status only benefit from the facilities provided for them.

The main objective for providing the reservation in civil posts and services of the Government is not just to give jobs to some persons belonging to these communities and thereby increase their representation in the service (though that constituted an important, immediate aim) but to uplift these people socially and educationally and make some place for them in the society.

To facilitate adequate representation of SCs, STs and OBCs in services, certain relaxations and concessions are given. A few of these are as follows: (a) relaxation of five years in upper age-limit for SC/ST candidates; (b) relaxation of three years in upper age-limit for OBC candidates; (c) Relaxation of qualification regarding experience in the case of direct recruitment wherever necessary for SC/ST candidates; and (d) exemption from the payment of application fee for SC/ST candidates.

Some relaxations are similarly given to physically handicapped and ex-servicemen also.

For ensuring implementation of reservation orders, liaison officers have been appointed for scheduled castes/scheduled tribes and other backward classes in each Department under different Ministries/Departments. Annual statements are required to be submitted by recruiting authorities for scrutiny by the Government. The representation of SCs/STs in Central Government services is given in table 10.1.

TABLE 10.1 : REPRESENTATION OF SCs/STs IN CENTRAL GOVERNMENT SERVICES

(As on 1 January 1999)

Group	Total	SCs	Percentage	STs	Percentage
A	93,520	10,558	11.29	3,172	3.39
B	1,04,963	13,306	12.68	3,512	3.35
C	23,96,426	3,78,115	15.78	1,45,482	6.07
D	9,49,353	1,89,761	19.99	66,487	7
(Excluding Safai Karamchhari)					
Safai Karamchhari	96,435	63,233	65.57	5,314	5.51
Total	35,44,262	5,91,740	16.7	2,18,653	6.17
(Excluding Safai Karamchhari)					
Total	36,40,697	6,54,973	17.99	2,23,967	6.15
(Including Safai Karamchhari)					

The scheme of reservation is being followed by Public Sector Undertakings including nationalised public-sector banks. State Governments have also provided for reservation of posts for SCs, STs, OBCs, etc., and have taken steps to increase their representation in state services. Reservation in State government services, however, is under the exclusive jurisdiction of respective State governments.

WELFARE OF PERSONS WITH DISABILITIES

The Ministry of Social Justice & Empowerment is the nodal Ministry for all policies/issues relating to the welfare of Persons with Disabilities. As per an NSSO sample survey of 1991 in the field of visual, hearing, speech and locomotor disabilities, it was estimated that about 1.9 per cent of the population of the country were disabled. The prevalence of physical disability was 20 per thousand persons in rural areas and 16 per thousand persons in urban areas. As regards mental retardation for persons up to the age of 14, about three per cent suffer from delayed mental development. The number of leprosy-affected persons is estimated to be about 40 lakh of whom a fifth are children. The fresh cases of disability every year have been estimated to be 7.5 lakh. On an average five per cent of population is estimated to be suffering from some kind of disability.

A comprehensive law, namely, the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, has been enacted and enforced in February 1996. The law deals with both prevention and promotional aspects of the rehabilitation such as education, employment and vocational training, creation of barrier-free environment, provision of rehabilitation services for persons with disabilities, institutional services and supportive social security measures like unemployment allowance and a grievance redressal machinery both at the Central and State level. An Expert Committee was constituted on 2 July 1999 to identify/review the posts in Groups 'A', 'B', 'C' and 'D' to be reserved for persons with disabilities in the Ministries/Departments and PSUs.

NATIONAL INSTITUTES

In consonance with the policy of providing a complete package of welfare services to the physically and mentally disabled individuals and groups and in order to effectively deal with the multi-dimensional problems of the disabled population, the following National Institutes/apex level Institutes have been set up in each major area of disability: (i) National Institute for the Visually Handicapped, Dehradun; (ii) National Institute for the Orthopaedically Handicapped, Kolkata; (iii) Ali Yavar Jung National Institute for the Hearing Handicapped, Mumbai; (iv) National Institute for the Mentally Handicapped, Secunderabad; (v) National Institute for Rehabilitation Training and Research, Cuttack; and (vi) Institute for Physically Handicapped, New Delhi.

The thrust areas of the National Institutes are manpower development, development of models of service delivery programmes for rehabilitation, reaching services to the unreached through outreach activities and research and development in the areas of bio-medical engineering, mental retardation, speech and hearing and visual impairedness.

The Artificial Limbs Manufacturing Corporation of India, Kanpur, registered under the Companies Act, has been functioning from 1976 to

develop, manufacture and market aids and appliances for the orthopaedically and visually-handicapped persons.

The National Handicapped Finance and Development Corporation (NHFDC) incorporated on 24 January 1997 provides opportunities for skill development and loan assistance to the disabled persons to set-up self-employment ventures.

REHABILITATION COUNCIL OF INDIA

The Rehabilitation Council established on 6 May 1986 as a Registered Society under the Societies Registration Act, 1860, was given a statutory status through the Rehabilitation Council of India Act, 1992 which came into force with effect from 31 May 1993. The Council is responsible for regulating training policies and programmes for various categories of professionals in the area of disability. Its functions include : (i) Standardization of training courses at different levels, (ii) regularisation of standards of training in all the training institutions throughout the country, (iii) recognition of institutions/ universities for their training courses within and outside the country on a reciprocal basis and (iv) maintenance of a Central Rehabilitation Register for professionals possessing recognised qualification in the area of rehabilitation.

A proposal to set up six Composite Regional Resource Centres in the country as outreach extension centres of the National Institutes has been approved. The centres will conduct training programmes to generate professionals in the field of rehabilitation as well as provide rehabilitation services to the disabled. Another proposal to set up four Regional Rehabilitation Centres for spinal injuries and other orthopaedic disabilities has been approved. The Centres would provide facilities for basic management and follow up of the spinally injured so as to make the affected persons functionally independent. The Italian Government is also providing assistance to the Centres in the form of equipment.

It is proposed to set up a National Institute for Multiple Handicapped in Chennai, which will provide comprehensive rehabilitation services to people with multiple disabilities.

To provide rehabilitation, specially to persons with disabilities, living in rural and remote areas, the National Programme for Rehabilitation of the Persons with Disabilities (NPRPD) has been formulated. Through the scheme, it is envisaged to provide rehabilitation services right up to the grassroots level. Over 100 districts have been selected throughout the country for implementing the scheme.

EMPLOYMENT OF THE HANDICAPPED

It is a Centrally-sponsored scheme. The basic objective of the scheme is to help the persons with disabilities in getting gainful employment either through special cells in normal employment exchanges or special employment exchanges for the persons with disabilities. The financial assistance from the

Central Government is hundred per cent in the case of special cells and 80 per cent in the case of special employment exchanges.

WELFARE OF THE AGED

The Ministry of Social Justice and Empowerment has been implementing a Central scheme of assistance for the programmes relating to the aged from November 1992. Under the scheme, financial assistance is provided to voluntary organisations for establishing and maintaining of day-care centres, old-age homes, mobile medicare units as well as for supporting and strengthening non-institutional services for the aged. This scheme revised in 1998-99 is called 'An Integrated Programme for Older Persons'. Under the revised scheme, up to 90 per cent of the cost of the project will be provided by the Government of India and the remaining shall be borne by the organisation/institution concerned. However, in the case of schools, colleges and recognised youth organisations such as *Nehru Yuva Kendra Sangathan* (NYKS) and the National Service Scheme (NSS) undertaking programmes and services for Older Persons hundred per cent cost of the project shall be provided by the Government. In case of State government/municipal bodies undertaking/executing any activity directly the funding pattern will be 90:10 between the Government of India and the State government/local body. However, where an activity is taken up by Union Territory Administration hundred per cent of the cost shall be borne by the Government of India. Similarly, if the Ministry itself executes any part of the programme (monitoring and evaluation of the scheme, advocacy, awareness building, research, documentation, training, etc.) full cost shall be payable from budgetary allocations made for the programme. Under the scheme 'An Integrated Programme for Older Persons', 733 old age homes/day care centres/mobile medicare units are being assisted.

Old-Age Homes : The Old-Age Home is a residential unit for at least 25 poor destitute aged persons of 60 years and above. Aged persons coming from lower-income groups and middle-income groups of society, in desperate need for shelter, can also be considered for admission in these Homes, subject to thorough inquiry and discretion of the voluntary organisations concerned. Under this programme, the physical and psychological well-being of the aged inmates is taken care of by way of provision of part-time medical officer and trained social worker/counsel. Medicines up to a limited extent are also provided.

Day-Care Centres for the Aged : Assistance to voluntary organisations is given for maintenance of day-care centres for at least 50 persons in urban/slum/rural/tribal areas. The aim of this programme is to keep the aged integrated with their respective families and to supplement the activities of the family in looking after the needs of the aged. Both the well-to-do and the poor in the age-group of 60 years and above could benefit from the programme.

Mobile Medicare Services for the Aged : Under this programme, grant is provided to voluntary organisations which have experience and expertise in providing medicare services to the aged in rural/urban/slum areas.

Non-Institutional Services for the Aged : Under this programme, a social worker is appointed to provide for services to the aged like legal counselling, assistance for supplying pension, GPF, HRA, Income Tax, Bank Services, etc. The aged are also assisted towards medical examination of their eyes, for receiving spectacles, obtaining hearing aids and dentures, etc.

The scheme of assistance to *Panchayati Raj* institutions/voluntary organisations for construction of Old-Age Homes launched in 1996-97 aims at providing at least one Old-Age Home per district for at least 25 persons over 60 years of age, preferably destitute in districts where no Government-aided Old-Age Home exists. The construction grant limited to Rupees five lakh has been raised to Rs 30 lakh under the revised scheme. Fifty-nine old age homes have been constructed under the Scheme of Assistance to Panchayati Raj Institutions/Voluntary Organisations/self-help groups for construction of old age homes/multi-service centres for older persons.

AADHAR

Aadhar - is an initiative by the Ministry of Social Justice & Empowerment in the direction of empowering the elderly population to find satisfactory solutions to the problems as per their felt needs through coordination of voluntary efforts and administrative initiatives. *Aadhar* is commissioned as a secretariat of the National Council of Older Persons, and is being coordinated by Agewell Foundation at M-4, Lajpat Nagar II, New Delhi. This is for the first time that the Government is empowering a community based peoples organisation in the voluntary sector to handle issues of such national significance and growing portent. Since its constitution in December 1999, *Aadhar* is in the process of attending to requests for intervention received from all over the country by the Ministry of Social Justice & Empowerment and various other government agencies and functionaries. *Aadhar* will associate committed individuals and organisations across the country right up to the district level as a grassroots action programme.

INTEGRATED PROGRAMME FOR STREET CHILDREN

Surveys of street children (sponsored by the then Ministry of Welfare - UNICEF 1992-93) in eight major cities have indicated that a large number of street children suffer destitution, neglect, abuse and exploitation due to circumstances beyond their control. The surveys have also shown that, due to a variety of reasons, basic urban services do not reach them in an effective and integrated manner. During 1992-93 a scheme was launched for the welfare of street children in order to provide integrated community-based non-institutional basic services. The scheme was revised in 1998-99. Under the revised programme known as "An Integrated Programme for Street Children", a wide range of initiatives relating to street children can be supported

including those relating to shelter, nutrition, health care, sanitation and hygiene, safe drinking water, education, recreational facilities and protection against abuse and exploitation.

Voluntary organisations engaged in the welfare and development of street children are provided funds up to 90 per cent of the cost of each project by the Government of India and the remaining 10 per cent is met by the concerned voluntary organisation. The expenditure incurred since the inception of the scheme up to 2000-01 is Rs 33.28 crore.

PROGRAMME FOR JUVENILE JUSTICE

The Juvenile Justice Act (JJA) 1986 is the primary law for children in need of care and protection. The JJA is designed for the care, protection, development and rehabilitation of neglected and delinquent juveniles, as well as for the adjudication of and disposition of certain matters related to them.

The Juvenile Justice Act 1986 has been replaced by a new Act called The Juvenile Justice (Care and Protection of Children) Act, 2000. This new law is more child-friendly and provides for proper care and protection as also for ultimate rehabilitation of children in need of care and protection. A clear distinction has been made in the new law between the juvenile offender and the neglected child.

The Ministry of Social Justice & Empowerment provides assistance to State Governments/UT Administrations for establishment and maintenance of observation homes, juvenile homes, special homes and after-care institutions for neglected and delinquent juveniles. The expenditure incurred since 1986-87, the inception of this programme up to 2000-01 is Rs 77.37 crore.

ASSISTANCE TO VOLUNTARY ORGANISATIONS FOR SOCIAL DEFENCE SERVICES

It provides for undertaking programmes which are not covered under the existing scheme of the Ministry. In particular the scheme provides for Pilot Projects in unchartered areas in which the Ministry may like to formulate independent programmes in due course. A number of programmes are being supported for rehabilitation of children of sex workers. Initiatives have also been taken to support projects for rehabilitation of widows and for providing counselling and support to traumatized children and women particularly those who have been victims of physical violence and sexual abuse. The assistance has also been extended to victims of super cyclone in Orissa and earthquake in Gujarat. The expenditure incurred from 1992-93 to 2000-01 is Rs 8.07 crore.

PREVENTION OF ALCOHOLISM AND DRUG ABUSE

The Ministry has been implementing the Scheme for Prevention of Alcoholism and Substance (Drugs) Abuse since 1985-86. Under the Scheme, grant-in-aid to the extent of 90 per cent (95 per cent in the North-East States, J&K and Sikkim) of the expenditure is provided to the NGOs. The Ministry is assisting

350 voluntary organisations for maintaining 440 centres all over the country. An amount of Rs 19 crore was spent in 1999-2000 and an allocation of Rs 22 crore has been made for the year 2000-01.

ANIMAL WELFARE

The Ministry of Social Justice and Empowerment has been implementing various schemes for the welfare of sick, abandoned, stray and injured animals since 3 September 1998 after the subject "Animal Welfare" was transferred to it by the Ministry of Environment and Forests.

The Animal Welfare Board of India was set up in 1962 in accordance with Section 4 of the Prevention of Cruelty to Animals Act, 1960. The Board keeps the law in force in India for the Prevention of Cruelty to Animals. The Board has been organising training camps on Animal Welfare from time to time.

Financial assistance is provided to voluntary organisations for construction of shelter houses. As per pattern of the scheme, NGOs are assisted to the extent of 90 per cent of the project cost of the construction of shelter house with a ceiling of Rs 25 lakh including 10 per cent contribution of the NGO. The amount is released to the NGOs in two equal instalments for the specified items. During 2000-01, grant-in-aid was provided to NGOs to construct 38 new shelter houses at an estimated cost of Rs 5.02 crore. In addition Rs 1.92 crore were released to Animal Welfare Board of India for further release to various Animal Welfare Organisations for construction and maintenance of shelter houses.

To make available emergency services to animals in distress grants-in-aid is provided for Ambulance services to competent organisations working in the area of animal welfare. During 2000-01 grant-in-aid was provided to 21 NGOs at an estimated cost of Rs 96 lakh.

A scheme to control the population of stray dogs by sterilization and reduce the incidence of rabies by immunization is being implemented. Under this Central Sector Scheme 100 per cent amount is released to NGOs. During 2000-01, grant-in-aid was released to 18 NGOs at an estimated cost of Rs 1.07 crore.

A National Institute of Animal Welfare is being set-up at Faridabad with an estimated cost of Rs 3.5 crore.

WOMEN AND CHILD DEVELOPMENT

The development of women and children to their full potential constitutes an essential component in the country's total human resource development effort. The Department of Women and Child Development (DWCD) was set up in 1985 as a part of the Ministry of Human Resource Development to give the required impetus to the development of women and children. The Department in its nodal capacity formulates plans, policies and programmes and enacts/amends legislation and coordinates the efforts of both governmental

and non-governmental organisations working to improve the condition of women and children in the country. The activities of the Department are carried out through four bureaux, namely, Child Development, Child Welfare, Women's Development and Women's Welfare. The Department has under its aegis four autonomous organisations, *viz.*, National Institute of Public Cooperation and Child Development (NIPCCD), *Rashtriya Mahila Kosh* (RMK), Central Social Welfare Board (CSWB) and National Commission for Women (NCW). NIPCCD and RMK are registered under Societies Registration Act, 1860, whereas CSWB is a charitable company registered under Section 25 of the Indian Companies Act, 1956. These organisations are fully funded by the Government of India and they assist the Department in its functions including implementation of some programmes/schemes. The National Commission for Women (NCW) was constituted in 1992 by an Act of Parliament as the National apex body for protecting and safeguarding the rights of women.

CHILD DEVELOPMENT

INTEGRATED CHILD DEVELOPMENT SERVICES

India has around 157.86 million children below the age of six years constituting 15.37 per cent of its population. Following the adoption of National Policy for children in 1974, the scheme of Integrated Child Development Services (ICDS) was launched on a pilot basis in 33 projects in 1975. The scheme provides a package of services comprising supplementary nutrition, immunization, health check-up, referral services, pre-school education and health and nutrition education for the mothers. The target groups are children in age group of 0-6 years and expectant women and nursing mothers.

The ICDS scheme continues to be the major vehicle for attaining the goal of early childhood survival and their development. The ICDS network is being used for attaining the objectives of National Population Policy, 2000 also. The number of beneficiaries as on 31 March 2001 were around 25 million children and five million mothers. 510 projects have been permitted to be operationalised during 1999-2000 and 2000-01 under the ICDS (General) Scheme. ICDS Services, except for the pockets in Uttar Pradesh and Bihar, have thus been universalised.

In each ICDS project, there are on an average 140 child development centres called *Anganwadi* Centres (AWCs)—a focal point for delivery of services under ICDS scheme. The grass-root level unit of ICDS is *Anganwadi* in rural, tribal or slum area. An *Anganwadi* is generally established in a rural/slum area having a population of about 1,000 while in the tribal areas it is set up for a population of about 700. One AWC is managed by one *Anganwadi* Worker (AWW) and one *Anganwadi* helper. The AWW monitors and promotes the growth of children with the active participation of communities/mothers. At an *Anganwadi* the worker provides services to about 60 children below six years of age and 12 pregnant and nursing mothers. The Child Development Project Officer (CDPO) is in charge of an ICDS project who provides the link between ICDS functionaries and the Government administration. An ICDS

Project has supervisors who support and guide AWWs in the implementation of ICDS programme and also provides on the job orientation to AWWs in 17-25 centres depending upon nature of the project.

ICDS is a Centrally-sponsored scheme. While the Central Government bears the full cost of meeting the operational requirements, the State provides funds for meeting the cost of supplementary nutrition. During 2000-01 Rs 1,046 crore was the Central Government's share for the implementation of the scheme excluding the cost of supplementary nutrition programme.

ICDS seeks to reduce both socio-economic and gender inequities. The Department has designed interventions for adolescent girls using ICDS infrastructure which focuses on school drop-outs, caters to girls in the age group of 11-18 years to meet their various basic needs. The number of blocks where the Scheme is being implemented will be 2,000 by the end of Tenth Plan Period.

ICDS TRAINING PROGRAMME - PROJECT - UDISHA

Udisha, which in Sanskrit means the first rays of the new dawn, is the nation-wide training component of the World Bank assisted Women and Child Development Project. *Udisha* seeks to address the physical, social, emotional and intellectual development of children, by promoting a convergence of actions in the areas of health, nutrition, early learning and better parenting. *Udisha* is seen as an important element in empowering child-care workers, parents and communities for a continuous process of assessment, analysis and informed action - to promote the fulfillment of young children's rights in the communities in which children live, grow and develop.

The World Bank has supported early childhood development efforts in India since 1980 through several projects, viz., Tamil Nadu Integrated Nutrition Project-I (TINP-I) in 1980-89, TINP-II project in 1990-97, ICDS-I project in 1991-97, ICDS-II project in 1993-2002 (This Project originally sanctioned up to September 2000 has since been extended up to September 2002 with state of Andhra Pradesh included), ICDS-APER in 1999-2004 has merged into ICDS-II Project and the ICDS III/Women and Child Development Project in 1999-2004.

OTHER CHILD DEVELOPMENT PROGRAMMES

The Schemes of Early Childhood Education (ECE) and *Balwadi* Nutrition Programme (BNP) are being implemented in the areas not covered by ICDS centres. The ECE scheme is run by voluntary organisations in educationally backward States of Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal providing pre-school education to children in the age group of 3-6 years. During the year 2000-01, grant-in-aid was sanctioned for running 663 ECE centres covering approximately 20,000 children. The BNP Scheme is being implemented through *Bhartiya Adimjati Sevak Sangh*, *Harijan Sevak Sangh* and Indian Council for Child Welfare. The scheme provides for supplementary nutrition for children in the age group of 3-5 years. During 2000-01 grants were sanctioned for running 461 *Balwadis* covering approximately 18,000 children.

There are 12,470 creches run by voluntary organisations with financial assistance from the Department, for the children of poor working/ailing mothers providing day-care services, supplementary nutrition, health care, recreation, etc. The National Creche Fund was set up in March 1994 with a corpus fund of Rs 19.90 crore to meet the additional demand of creches. Up to 31 March 2001, 2,455 creches were sanctioned from the fund. Thus, presently there are 14,925 creches providing day-care service to over 3.73 lakh children.

AWARDS

The National Awards for Child Welfare were instituted in 1979, the International Year of the Child, to give recognition to voluntary action for the cause of child welfare. Five awards are given to the institutions and three to individuals annually. The awards carry a cash prize of Rs two lakh and a citation for each institution and Rs 50,000 and a citation for each individual.

The Rajiv Gandhi Manav Seva Award was instituted in 1994 to honour an individual who makes outstanding contribution towards service for children. The award carries a cash prize of Rs one lakh, a silver plaque and citation.

National Bravery Awards were instituted by the Government of India in 1957 for acts of bravery and meritorious acts/services performed by children in situations of emergency. The programme is implemented by the Indian Council for Child Welfare (ICCW) with financial assistance from the Government. The awards are given by the Prime Minister every year on the eve of Republic Day.

The National Child Award for Exceptional Achievement was instituted in 1996 to be awarded to children between the age of four to 15 years who have shown an exceptional achievement in any field including academics, arts, culture and sports, etc. There is one Gold Medal and 32 Silver Medals (one for each State/UT). The Gold Medal carries a cash prize of Rs. 10,000 and a certificate. The Silver Medal carries a cash prize of Rs 5,000 and a certificate.

Five awards named after eminent women in Indian history, *i.e.*, Devi Ahilya Bai Holkar, Kannagi, Mata Jijabai, Rani Gaidinliu Zeliang and Rani Lakshmi Bai, have been instituted by the Government of India in 1999. The awards are given annually to Indian women for their contribution in the field of social development. Each award carries a cash prize of Rs one lakh and a citation.

NATIONAL POLICY AND CHARTER FOR CHILDREN

The National Agenda for Governance enunciated the Government's intention to announce a National Charter for Children with an aim to ensure that no child remains illiterate, hungry or lacks medical facilities. The Draft National Policy and Charter for Children has been finalized. The draft document has been circulated to the States and UTs for their comments and reviews. A draft

cabinet note has been circulated to the Central Ministries/Departments dealing with children's issues for their comments. It is expected to introduce the document in the Parliament in the winter session. The National Policy and Charter for Children will supercede the National Policy for Children, 1974.

UN CONVENTION ON RIGHTS OF CHILD

India ratified the UN Convention on the Rights of the Child (CRC) in 1992 and submitted its Initial Report in 1997. The UN Committee on the CRC has gone through the Initial Report and raised a "List of Issues" based on the Report for our written response. India's response was submitted to the Committee on CRC on 15 December 1999. The Second Country Report has been drafted after obtaining information received from other Ministries/Departments/States and UTs. The final draft Report has also been circulated to other Ministries/Departments in February, 2001 for their information and final comments. The Report has been finalised and it will be communicated to PMI, Geneva.

NATIONAL COMMISSION FOR CHILDREN

The Department of Women and Child Development is in the process of setting up the National Commission for Children. The Parliamentary Standing Committee attached to the Ministry of HRD in its two meetings held in 1998 approved the proposal, in principle. Based on the recommendations of the Committee, a draft note was accordingly prepared and circulated to all State Governments/UT Administrations and concerned Central Ministries/Departments. Most of the States, UTs and Central Ministries/Departments have agreed, in general, to the proposal. In a meeting held on 29 June 1999 it was agreed, to set up a National Commission for Children on the lines of the National Human Rights Commission. The Draft Bill has been finalised. It is expected to introduce the Bill in the Parliament in the winter session.

WOMEN'S DEVELOPMENT

Women who number 498.7 million according to 2001 census, represent 48.2 per cent of country's population of 1,027.01 million. The development of women has always been the central focus in developmental planning since Independence. Though there have been various shifts in policy approaches in the last 50 years from the concept of "welfare" in the 70s, to "development" in the 80s, and now to "empowerment" in the 90s, the Department of Women and Child Development since its inception has been implementing special programmes for holistic development and empowerment of women with major focus to improve the socio-economic status of women. The major programmes that complement and supplement the other developmental and welfare programmes, particularly in the sectors of health, education, rural and urban development, etc., implemented by the Department, and initiatives undertaken in the area of women's empowerment are given below.

WELFARE AND SUPPORT SERVICES

The scheme of Hostels for Working Women seeks to provide reasonable rented

and safe accommodation to working women belonging to low-income groups who migrate to cities for employment. In some hostels, day-care centres for children of these women are also attached. During 2000-01, 29 additional hostels were sanctioned to provide accommodation to 1,950 working women. This brought the total number of hostels to over 870, benefiting over 61,564 working women.

The Government of India launched a programme in 1969 in the Central Sector called Short-Stay Homes for women and girls for the protection and rehabilitation of those women and girls who are facing family problems, mental strains, social ostracism and exploitation and who need shelter while they adjust and cope with their personal situations. The scheme envisages the provision of services/facilities, *viz.*, medical care, psychiatric treatment, counselling, occupational therapy, education, vocational and creational activities and social facilities for adjustment. A recurring grant of Rs 4,01,350 and non-recurring grant of Rs 50,000 is provided under the scheme.

EMPLOYMENT AND TRAINING

The programme of Support to Training-cum-Employment for Women (STEP) was launched in 1987 to strengthen and improve the skills for employment opportunities for women below-poverty line, in traditional sectors of agriculture, small animal husbandry, dairying fisheries, handlooms, handicrafts, cottage and village industries, sericulture, social forestry and waste land development where women are employed on a large scale. The focus is mainly on marginalised and assetless women, female-headed households and women of other dispossessed groups. Since the inception of the programme about 4,91,795 women have been covered under 96 projects.

The schemes of Training-cum-Employment Production Centres was launched in 1982-83 with assistance from Norwegian Agency for Development Cooperation (NORAD). Under this programme, financial assistance is given to Women's Development Corporations, Public Sector Corporations, autonomous bodies and voluntary organisations to train poor women mostly in non-traditional trades to ensure their employment in these areas. Some of the trades are computer programming, electronics, watch assembling, radio and television repairs, garment making, secretarial practices, community health workers, embroidery and weaving. Financial assistance is given to the grantee organisations. Since the inception of the programmes, 1,850 projects benefiting 2.50 lakh women have been implemented.

The scheme of Condensed Course of Education for Women was started by the Central Social Welfare Board (CSWB) during 1958 for providing basic education and skills to needy women. Under the scheme, grant is given to voluntary organisations for conducting courses of two-year duration for preparing candidates for primary, middle and matric level examinations and one-year duration for matric failed candidates. During the year 2000-01, grants amounting to Rs 247.47 lakh have been sanctioned for conducting 443 courses, benefiting 11,225 women candidates.

The CSWB had started the scheme of the Vocational Training Programme

in 1975 to train women in marketable trades and also to upgrade their skills. The training programme is organised in rural, tribal, backward and urban slum areas through voluntary organisations in trades like computer training, community health workers, paramedical vocations, typing and shorthand, to enable them to get employment. The organisations are identified through State Social Welfare Advisory Boards in all States/UTs.

SOCIO-ECONOMIC PROGRAMME

The Socio-Economic Programme endeavours to provide employment opportunities to destitute women, widows, deserted and the physically handicapped. Besides, women entrepreneurs are encouraged to exhibit and sell their products. CSWB assists voluntary organisations for setting up agro-based units like dairy, poultry, piggery, goatery, etc., for poor and needy women. However, for the past few years' proposals for Agro-based Units were not considered. Voluntary organisations are encouraged to set up production units. Project proposals are to be cleared by District Industrial Centres, KVICs, etc., who look into viability of the projects. A grant is provided by the CSWB to set up a production unit. The grant is finalised on case-to-case basis subject to a limit of Rs three lakh.

SWAYAMSIDDHA

This scheme was launched in March 2001, recasting the *Indira Mahila Yojana* (IMY) into an integrated programme for women's empowerment, renamed *Swayamsiddha*, and expanding it from the existing 238 blocks to 650 blocks by the end of the Ninth Plan. The vision of Integrated Women's Empowerment Programme (IWEP) is to develop empowered women who will demand their rights from family, community and government, have increased access to, and control over, material, social and political resources, have enhanced awareness and improved skills.

The immediate objectives of the scheme are establishment of self-reliant women's Self-Help Groups (SHGs), creation of confidence and awareness among members of SHGs, their control over economic resources; improving access of women to micro credit; involvement of women in local level planning; and convergence of services of DWCD and other Departments.

This scheme will be implemented by the State government through the identified nodal departments at the State level and implementing agencies at the Block level.

SWA-SHAKTI PROJECT

The *Swa-Shakti* Project, (earlier known as Rural Women's Development and Empowerment Project), was sanctioned on 16 October 1998 as a Centrally-sponsored Project for a period of five years with an estimated outlay of Rs 186.21 crore. In addition, an amount of Rs five crore is being provided for setting up, of Revolving Fund in the project status for giving interest-bearing loans to beneficiary groups primarily during their initial formative stage. The objectives of the project are : (i) Establishment of 7,400 to 12,000 self-reliant women's self-help-groups (SHGs) having 15-20 members each,

which will improve the quality of their lives, through greater access to and control over resources; (ii) Sensitizing and strengthening the institutional capacity of support agencies to pro-actively address women's needs; (iii) Developing linkages between SHGs and lending institutions to ensure women's continued access to credit facilities for income generation activities; (iv) Enhancing women's access to resources for better quality of life, including those for drudgery reduction and time-saving devices; and (v) Increased control of women, particularly poor women, over income and spending, through their involvement in income generation activities. The project covers 35 districts in the States of Uttar Pradesh, Madhya Pradesh, Gujarat, Jharkhand, Karnataka and Bihar.

BALIKA SAMRIDDHI YOJANA

Balika Samriddhi Yojana was launched on 2 October 1997. Under the scheme the mother of a girl child born on or after 15 August 1997, in a family living below the poverty line is given a grant of Rs 500. The scheme was revised in June 1999. The grant of Rs 500 will be deposited in the name of the girl child in a post office/bank account. The girl will also get scholarship for each completed year of schooling from class I to class X which will also be deposited in the same account. The matured value of the account will be payable to the girl on her attaining the age of 18 years and having remained unmarried till then.

PLAN OF ACTION TO COMBAT SEXUAL EXPLOITATION OF WOMEN AND CHILDREN

The Supreme Court in a case passed an order on 9 July 1997, directing *inter-alia* the constituting of a committee to make an in-depth study of the problem of prostitution, child prostitutes and children of prostitutes and to evolve suitable schemes for their rescue and rehabilitation. Accordingly the Committee on Prostitution, Child Prostitutes and Children of Prostitutes was constituted to evolve such schemes as are appropriate and consistent with the directions given by the Supreme Court. A draft Plan of Action prepared by the Committee has been approved in a meeting chaired by the Hon'ble Prime Minister.

The Plan of Action would guide the actions of the Ministries/Departments of the Central Government, NGOs, the public and private sectors and other sections of society. The Plan of Action consists of action points grouped under prevention, trafficking, awareness generation and social mobilisation, health care services, education and childcare, housing, shelter and civic amenities, economic empowerment, legal reforms and law enforcement, rescue and rehabilitation, institutional machinery and methodology. The report of the Committee and the Plan of Action to combat trafficking and commercial sexual exploitation of women and children has been sent to the concerned Central Ministries/Departments and State governments/UT administrations for implementation of the action points.

WOMEN'S EMPOWERMENT YEAR - 2001

The year 2001 has been declared as "Women's Empowerment Year" to bring

a special focus on programmes for them. The main thrust during the year will be on launching of new programmes and legislative changes. Some achievements of the year include the presentation of *Stree-Shakti Puraskar* to women, formulation of the National Policy for the Empowerment of Women; launching of an Integrated Women's Empowerment Programme named *Swayamsiddha*, a Tale-conference between Parliamentarians and grass-root level women, issue of guidelines for operationalisation of district level committees on violence against women, and Help lines for women in distress.

NATIONAL COMMISSION FOR WOMEN

The National Commission for Women was set up on 31 January 1992 in pursuance of the National Commission for Women Act 1990. The functions assigned to the Commission are wide and varied covering almost all facets of issues relating to safeguarding women's rights and promotion. The Commission has a Chairman, five members and a Member Secretary, all nominated by the Central Government. The Commission continues to pursue its mandated activities, namely, review of legislation, intervention in specific individual complaints of atrocities and denial of rights. Remedial action to safeguard the interest of women is suggested to the appropriate authorities. The Commission has accorded highest priority to securing speedy justice to women. Towards this end, the Commission is organising *Parivarik Mahila Lok Adalats*, offering counselling in family disputes and conducting training programmes for creating legal awareness among women.

RASHTRIYA MAHILA KOSH

The National Credit Fund for Women (*Rashtriya Mahila Kosh*) was set up on 30 March 1993 with corpus fund of Rs 31 crore with the major objective of meeting the credit needs of poor women, particularly in the informal sector. The RMK set up under the Societies Registration Act, 1860 is managed by a Governing Board comprising 16 members. The Minister of State for Women and Child Development is the Chairperson of the *Kosh*. The *Kosh* has sanctioned, up to 30 April 2001, loans amounting to Rs 103.57 crore to benefit 4,07,108 women through 868 NGOs. Besides extending micro-finance, RMK has also launched a scheme to support the formation and stabilization of Women's Self Help Groups (SHGs). Under this scheme, RMK gives an interest free loan up to Rs one lakh for formation and stabilization of 25 SHGs. The loan is convertible into grant on fulfilment of certain conditions. As on 30 April 2001 an amount of Rs 363.98 lakh has been sanctioned to 396 NGOs for formation of SHGs.

NATIONAL INSTITUTE OF PUBLIC COOPERATION AND CHILD DEVELOPMENT

The National Institute of Public Cooperation and Child Development (NIPCCD), New Delhi is an autonomous organisation under the aegis of the Department of Women and Child Development. The objects of the Institute are to develop and promote voluntary action in social development; take a comprehensive view of child development and develop measures for coordination of

Governmental and voluntary action in social development; and evolve framework and perspective for organising children's programmes through governmental and voluntary efforts.

In order to achieve the above objectives, the Institute conducts research and evaluation studies; organises training programmes, seminars, workshops, conferences; and provides documentation and information services in the fields of public cooperation and Child Development. The Institute is the apex body for training of functionaries of the ICDS programme.

The Institute has three Regional Centres at Bangalore, Guwahati and Lucknow.

CENTRAL SOCIAL WELFARE BOARD

The Central Social Welfare Board (CSWB) was set up in 1953 with the objective of promoting social welfare activities and implementing welfare programmes for women, children and the handicapped through voluntary organisations. It was the first organisation in post-Independence era to achieve people's participation for implementation of welfare programmes for women and children through non-governmental organisations (NGOs). In 1954 the State Social Welfare Boards were set up in the States and UTs. The programmes implemented by the Board include: socio-economic programme for needy/destitute women, condensed courses of education and vocational training courses for women and girls, awareness generation projects for rural and poor women, family counselling centres/voluntary action bureau, holiday camps for children, welfare extension projects in border areas and *balwadis*, creches and hostels for working women, etc.

FOOD AND NUTRITION BOARD

The Food and Nutrition Board (FNB) was transferred to the Department of Women and Child Development on 1 April 1993 in pursuance of the National Nutrition Policy. The FNB has four regional offices in Delhi, Mumbai, Kolkata and Chennai and 43 Community Food and Nutrition Extension Units in 29 States/UTs. Some of the important areas of FNB activities are nutrition education and orientation, training in home-scale preservation of fruits and vegetables, monitoring of supplementary feeding under ICDS, development and distribution of educational/training material, mass awareness campaigns, development and promotion of nutritious foods, fortification of foods, food analysis and standardisation, research and development and follow-up action on National Nutrition Policy.

INFORMATION AND MASS EDUCATION

Concerted efforts are being made to disseminate information about issues relating to the Development of Women and Children through all available modes of communication to target groups and community in general.

Outdoor publicity activities are undertaken to inform, educate and motivate people for bringing about attitudinal changes to achieve social development goals. Specific objectives include the mobilization of public

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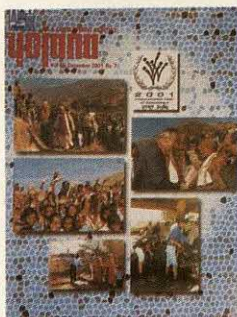
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PENSION AND PENSIONERS' WELFARE

The Department of Pension and Pensioners' Welfare is the nodal agency of the Government of India for formulation of a general policy on pension and other retirement benefits, as also for redressal of grievances on retirement benefits. A number of steps have been taken in the last few years for streamlining the pension administration system. In pursuance of the recommendation of the Fifth Central Pay Commission the rates of pension, family pension, etc., have been revised as under:

(i) Minimum pension/family pension has been fixed at Rs 1,275 per month subject to condition that the actual amount of pension/family pension should not be less than 50 per cent and 30 per cent respectively of the minimum of revised scale of pay of the post from which the pensioner has retired; (ii) The commutation may be allowed up to 40 per cent of pension; (iii) The ceiling of gratuity has been raised to Rs 3.5 lakh; (iv) The definition of the family has been broadened to include parents, for entitlement to family pension with effect from 1 January 1998; (v) The ceiling of amount payable under the deposit Linked Insurance Scheme has been enhanced from Rs 30,000 to Rs 60,000; (vi) A fixed medical allowance of Rs 100 per month has been sanctioned to all Central Government Pensioners who are residing in areas not covered by the Central Government Health Scheme; (vii) CPF retirees of the period from 18 November 1960 to 31 December 1985 who have completed 20 years of service prior to superannuation have been allowed ex-gratia at the rate of Rs 600 per month with effect from 1 November 1997; (viii) In pursuance of observations made by the Parliamentary Standing Committee of Ministry of Home Affairs in para 61 of its 44th Report, detailed instructions have been issued for timely payment of pension and retirement dues to the retiring employees of Union Government. The O.M. also makes a provision for fixing responsibility for recovery of penal interest paid on delayed amount of gratuity to the retiring employees from the salary of concerned dealing official/supervisor and Head of Office in proportion; (ix) Employed family pensioners have been allowed Dearness Relief (D.R.) on their family pension with effect from 18 July 1997. In the case of re-employed pensioners D.R. on pension is payable only if pay on re-employment has been fixed at the minimum of the scale of re-employed post, and (x) Central Government servants who had drawn lump sum payment on absorption in PSUs/Autonomous Bodies are entitled to restoration of 1/3rd commuted portion of pension duly revised as per Supreme Court judgement dated 15 December 1995. D.R. was also allowed on this restored and consolidated amount of pension. As a result of Supreme Court judgement dated 26 April 2000 the D.R. has now been allowed on full pension instead of 1/3rd commuted portion of pension. The Government have decided to issue Identity Cards to all civilian Central Government pensioners.

11 Mass Communication

IN a country like ours, mass communication plays a vital role in creating people's awareness about national policies and programmes by providing information and education, besides healthy entertainment. It helps people to be active partners in the nation-building endeavour. The Ministry of Information and Broadcasting is responsible for development and regulation of information, broadcasting and film sectors in the country. The broadcasting sector consists of Prasar Bharati formed by an Act of 1997 by subsuming Doordarshan and All India Radio under it. In addition, the broadcasting sector has about hundred private channels and cable network all over the country. The information sector includes the print media which is regulated by Press Council of India, in addition to the following media units of the Government : Press Information Bureau, Directorate of Advertising and Visual Publicity, Publications Division, Directorate of Field Publicity, Song and Drama Division, Photo Division and the Research, Reference and Training Division. Film making is in the non-government sector. The Government presence in this sector consists of Films Division, Directorate of Film Festivals, National Film Development Corporation, the Central Board of Film Certification, Film Archives of India and Children's Film Society. The Government has set up two film institutes, one at Pune and the other at Kolkata.

The information and broadcasting sector has been undergoing major changes largely due to technological development during the last two decades. In the 1980s, Doordarshan started using INSAT for nation-wide transmission of its channels and a huge network of more than 1,000 terrestrial transmitters has been created all over the country. In the nineties, private channels and cable network came to cover many parts of the country. Use of computers has been revolutionising information collection and dissemination.

Convergence is yet another technological revolution profoundly influencing the media scenario : convergence is coming about in various branches of entertainment like film, TV and music industry. All of these use computers, CDs, audio/video tapes. The same satellite and optic fibre is being used as infrastructure transmitting information whether for telecommunication or for computers or for broadcasting. At the receiving end the computer is being used as a tool not only for information processing, but also for receiving information and broadcast programmes. The Government has been trying to work out the details of Convergence Law, which will address the problems of development and regulations of the three related sectors, namely, broadcasting, telecommunication and information technology in a unified manner.

More than 100 FM radio stations have been approved for being set up and operated by private parties. The Government has liberalised uplinking

policy for TV channels in the country. The Cable Network Act has been amended with the objectives of preventing the cable networks from showing pirated movies, prohibiting advertisements for liquor, tobacco and infant milk substitutes and for ensuring that the cable network show at least three Doordarshan channels. The Government has allowed Direct to Home (DTH) operation in the country with certain conditions. Detailed guidelines in this regard have been issued on 15 March 2001, which are available at the Ministry's website mib.nic.in.

ELECTRONIC MEDIA

AKASHVANI

Broadcasting started in India in 1927 with two privately-owned transmitters at Bombay (Mumbai) and Calcutta (Kolkata). The Government took over the transmitters in 1930 and started operating them under the name of Indian Broadcasting Service. It was changed to All India Radio (AIR) in 1936 and later came to be known as Akashvani from 1957. AIR is serving as an effective medium to inform and educate people besides providing healthy entertainment.

NETWORK

At the time of Independence there were six radio stations. All India Radio presently has 208 radio stations and 327 transmitters. These include 149 medium-wave, 55 short-wave and 123 FM transmitters and provide radio coverage to a population of 98.8 per cent spread over 90 per cent area of the country.

MUSIC

AIR is broadcasting all streams of music, i.e., classical, light, folk, film/non-film. In 2000, All India Radio arranged *Akashvani Sang Sammelan* before the invited audience at 16 places in the country wherein 36 eminent and renowned artists of classical and Karnatic music were featured. In the National Programme of classical music (*Hindustani and Karnatic*) both eminent and upcoming artists were featured. In the National Programme of Regional and Light music, efforts have been made to protect and preserve traditional music of the country and also to acquaint common listeners about the music of other areas of the country. Under this series programmes have been broadcast on various subjects like variety of Mand of Rajasthan, Nirgun Parampara Mein Kabir and songs of nature in Tamil, Telugu, Kannad and Malayalam. These programmes were the best in national hookup.

AIR music competitions in categories of Hindustani/Karnatic and Light Music is yet another regular feature in searching new talent amongst the youth. In 2000 AIR introduced 40 new talents in all the categories.

COMMERCIAL

All India Radio introduced commercials on 1 November 1967 which have now been extended to 126 Primary Channel Stations, 39 Vividh Bharati Centres

known as Commercial Broadcasting Service Centres, 76 Local Radio Stations and eight FM Metro channels. Commercials are also allowed over National Channel, New Delhi, External Services Division and North-Eastern service, Shillong. Besides broadcasting commercial spots/sponsored programmes, the following new avenues have been opened on AIR to attract the interest of listeners and small advertisers :

(i) *Greeting Messages* : AIR has made an innovative effort to earn revenue from greetings/good wishes to the near and dear ones of the listeners, which were earlier broadcast free; (ii) *Classified Advertisements* : Classifieds which are common in the print media, have been given space in the audio media as well to give variety of options to the local advertisers with nominal budget. These classifieds are accepted on AIR for live broadcast; (iii) *Live Spots* : AIR recently introduced live broadcast of spots in the remote areas where recording facility is not available in the market; (iv) *Hiring of AIR Studios* : AIR has decided to extend help to the small and medium local advertisers by offering them AIR studios on hiring basis; (v) *Production of spots/sponsored programmes at AIR on request of advertiser* : Production of spots/sponsored programmes on request of advertisers are being undertaken by the staff and technical equipment available at the studio(s) of All India Radio with a reasonable charge to suit the advertisers; and (vi) *Direct booking* : To boost revenue generation, AIR has introduced direct booking of advertisements/sponsored programmes by in-house marketing.

AIR has introduced more and more interactive programmes, e.g., live phone-in, dial-in, dial-out, radio bridge, etc., to maximise listeners participation. Vividh Bharati programmes are being relayed over local radio stations in the afternoon transmissions. These stations broadcast their own programmes in the morning and evening transmissions.

DRAMA

All capital and regional stations of All India Radio broadcast plays in different languages. Radio adaptations of outstanding novels, short stories and stage plays are also some of the highlights of radio broadcast. A number of All India Radio stations also broadcast family dramas. The National Programme of plays in Hindi is broadcast every fourth Thursday of the month and its regional language versions are also broadcast by non-Hindi stations. Special model plays of 30 minutes duration nomenclatured as chain play are also broadcast on third Friday of every month. All India Competitions for Radio Play are organised in 19 prominent languages. The prize winning entries are translated into Hindi and then circulated to all stations for their language translation and production.

NEWS SERVICES DIVISION

The News Services Division (NSD) of All India Radio disseminates news and comments to listeners in India and abroad. The history of news broadcasting in India is much older than that of All India Radio. The first news bulletin

in the country went on the air from the Bombay station on 23 July 1927 under a private company, the Indian Broadcasting Company. The News Wing of All India Radio came into existence in August 1937.

From 27 bulletins in 1939-40, AIR now puts out 319 bulletins daily with a total duration of 40 hours and 5 minutes. Out of these, 84 bulletins are broadcast in the Home Services from Delhi with a duration of 12 hours, while 45 Regional News Units (RNUs) including the Delhi regional news unit originate 144 news bulletins daily in 68 languages and dialects daily with a duration of 18 hours and 41 minutes. In addition, weekly/tri-weekly bulletins are broadcast in few languages/dialects from some RNUs. In the External Services, AIR broadcasts 65 bulletins for 8 hours and 58 minutes in 25 languages (Indian and foreign). The News Services Division has been putting out news headlines of a minute's duration on the FM Channel from Delhi since 28 May 1995. These are now available round-the-clock from 26 June 1998. Two headline news bulletins are broadcast on the FM channel from Mumbai.

"AIR News-on-Phone" was introduced on 25 February 1998. The service provides the latest news highlights in Hindi and English to a listener on dialing the specified numbers. Phone-in programmes and Radio Bridge programmes are broadcast on special occasions like Budget presentation, Elections, etc. AIR is now available on the internet.

Special bulletins for the youth (two bulletins) and sports news are broadcast from Delhi in English and Hindi, and in Bengali from AIR Kolkata. During the Haj period, a five minute Haj bulletin is aired from Delhi for the benefit of the pilgrims. "Comments from the Press" are broadcast every day. In addition, NSD puts out a number of news-based programmes and commentaries in English and Hindi. Commentaries are also broadcast along with the news bulletins in Arunachali, Dogri, Kashmiri and Urdu in the evening.

During Parliament sessions, commentaries in Hindi and English reviewing the day's proceedings in both Houses are broadcast. Similarly, reviews of the proceedings of the State legislatures, when they are in session, are broadcast in the respective regional languages.

Newsreels were started on 10 December 1955 both in English (Radio Newsreel) and Hindi (*Samachar Darshan*) from Delhi. Regional News Units put out Radio Newsreels in the respective regional languages.

The bulk of AIR news comes from its 90 correspondents in India and seven abroad at Colombo, Dhaka, Dubai, Hongkong, Washington, Kathmandu and Brussels. Apart from this, AIR has 246 part-time correspondents based at important district headquarters. AIR subscribes to news agencies—UNI, PTI and their corresponding Hindi services—*Univarta* and *Bhasha*, and ANI to supplement its news sources. Other sources of news are the monitored reports from Monitoring Units (English and Hindi) attached to the General News Room and the Central Monitoring Services, which monitor the bulletins of

major broadcasting organisations of the world. An internal website of NSD has been established to cater to the needs of the Regional News Units. A Radio News Exchange Programme has been started with the members of the Asia-Pacific Broadcasting Union to broaden the news coverage.

EXTERNAL SERVICES DIVISION

The External Services Division of AIR has been a vital link between India and rest of the world, specially with those countries where the interests of India are intertwined because of Indian population, staying in those countries. The Division's Broadcast has been projecting the Indian point of view on matters of national and international importance through its various programmes.

External Services Division of AIR ranks high among the External Radio Networks in the world both in reach and range covering about 100 countries in 26 languages, 16 of them Foreign and 10 Indian, with an enormous programme output of about 70 hrs 45 mts everyday. The external broadcast keeps the overseas listeners in touch with the ethos of India and things that are Indian, reflecting the ideas and achievements of nation as an open society.

The languages in which AIR reaches its foreign audience are : Arabic, Baluchi, Burmese, Chinese, Dari, French, Indonesian, Nepali, Persian, Pushtu, Russian, Sinhala, Swahili, Thai, Tibetan and English. The Indian languages are Hindi, Tamil, Telugu, Bengali, Gujarati, Punjabi, Sindhi, Urdu, Saraiki and Malayalam.

During the year 2000-2001 extensive coverage was given to all conferences, seminars, symposia and festivals of films and trade of national and international importance in the form of commentaries, Radio reports and interviews. Coverage was also given to the visits of foreign dignitaries to India and of Indian leaders abroad. Besides, coverage was also given to NAM Foreign Ministers Conference in Columbia, G-77 Summit, G-15 Summit in Cairo, Third Ministerial meeting of BIMST EC, India's Peace Keeping role in Sierra Leone, G-8 Summit, Millennium World Peace Summit, the first Olympic Games of the Millenium in Sydney.

English and Hindi services were geared to mount wide publicity for the new economic policy of liberalisation giving all the details of Government schemes and incentives for the new investment climate in India.

From 15 August 2000, a Digital Satellite Service in English, Hindi, Urdu, Sindhi, Pushtu, Arabic and Gujarati languages in External Broadcast of All India Radio was launched.

External Services Division continues to supply recordings of music, spoken word and composite programmes to about 80 foreign broadcasting organisations under the Cultural Exchange Programme. The Division's transmission directed to SAARC countries, West Asia, Gulf and South East Asian countries continue to carry the 9 p.m. National bulletin in English,

originally meant for Home Services. External Services Division continues to beam UN News of different parts of the globe on every Saturday.

NATIONAL CHANNEL

The National Channel of All India Radio, commissioned on 18 May 1988 is essentially a night service, evening to morning broadcast covering almost 76 per cent of the population of the country. The spoken word programmes broadcast by National Channel are in Hindi, Urdu and English. The channel broadcasts magazine programmes in Vividha (Hindi), Manzar (Urdu) and Vividha (English).

Hourly news bulletins in Hindi and English provide latest information to listeners throughout the night besides broadcast of regional and devotional music in several languages and dialects of the country in addition to the fixed chunks of Hindustani and Karnatic classical music. *Basti Basti Nagar Nagar* is a fortnightly fieldbased featurised programme covering places of historical, socio-cultural and tourist importance all over India. During the holy month of *Ramzan* a special programme *Sahargahi* is also broadcast in the early morning. Whenever the Parliament is in session, National Channel broadcasts recordings of Question Hour in Lok Sabha/Rajya Sabha.

Since December 2000 in its special Radio Week entitled *Dhanak* National Channel is broadcasting a series of seven special programmes every month covering particular disciplines. Three live phone-in programmes are also broadcast every month. Hello Doctor is related to medical problems, another is covering general social issues and public grievances and the third one is purely entertainment programme based on film music. *Sarhad*, another popular programme started at the time of the Kargil conflict is based on messages received from and for the forces guarding the borders.

CENTRAL MONITORING SERVICE

The Central Monitoring Service (CMS) monitors news and news-based programmes of foreign radio and television networks. It also feeds the Newsrooms of AIR and Doordarshan with news flashes. During the year, the CMS on an average monitored about 48 broadcasts and 44 telecasts from 10 radio and four television networks respectively every day. These broadcasts/telecasts were monitored in six languages including one foreign language. The CMS brought out two weekly reports, a Weekly Analytical Report giving an analysis of the important news of the week and a weekly special report on Kashmir, based on the anti-India propaganda of Pakistan's radio and television networks on the Kashmir issue. The CMS has two units at Jammu and Kolkata.

TRANSCRIPTION AND PROGRAMME EXCHANGE SERVICE

The Transcription and Programme Exchange Service (T&PES) consists of Sound Archives with vast library storing about 48,285 tapes of different formats which include 12,000 tapes of music, both vocal and instrumental in *Hindustani* and *Karnatic* styles, and folk and light music.

The library preserves a separate collection of important voice recordings of eminent personalities and national leaders besides the speeches of all the Presidents and the Prime Ministers. Recordings from the Archives are now being transferred to compact discs. So far, 413 CDs of spoken word and music have been prepared.

The main purpose of Programme Exchange Unit (PEU) is to exchange good quality programmes among the stations as per their requirements. In PEU library, approximately 8,319 tapes containing the recordings of music and spoken word programmes are preserved for this purpose. It has a separate reference library of Folk and Tribal Music in all principal languages and dialects of our country.

A bi-monthly bulletin *Vinimaya* is also being published from T&PES giving details of available foreign programmes, *Karnatic* and *Hindustani* music (both vocal and instrumental) and other forms of musical programmes, viz, orchestral compositions, stage songs, folk and tribal music, and spoken word programmes, i.e., features, plays, talks, opera and interviews, etc., for circulation among the AIR stations. It also gives information regarding our satellite transmission, which is being done daily to fulfill the requirements of the stations.

Transcription Unit procures from AIR stations and News Services Division all the speeches delivered by the President and the Prime Minister in different parts of the country and abroad.

The Central Tape Bank looks after the needs of AIR stations for exchanging suitable programmes among the stations.

The Foreign Programmes Unit procures programmes material both in music and spoken word from different countries and broadcasting companies under the cultural exchange of programmes.

FARM AND HOME PROGRAMMES

All Stations of All India Radio broadcast Farm and Home programmes directed at rural audiences. The thrust of broadcasts are on increasing production of cereals, oilseeds, pulses, vegetables, fruits, etc.; role of *panchayats* in rural development. The programmes lay emphasis on the various measures taken by Government aimed at rural development.

HEALTH AND FAMILY WELFARE

AIR Stations broadcast more than 12,375 programmes on Family Welfare every month in all the major languages/dialects of our country. Programmes on AIDS, TB, dengue, sexually transmitted diseases, water-borne diseases, malaria eradication programme, child survival and safe motherhood programme, sterilization, vasectomy, tubectomy, etc., are broadcast under the title of family welfare programmes. Success stories are also broadcast regularly.

AUDIENCE RESEARCH UNIT

Audience Research Unit provides guidelines to improve the effectiveness of AIR programmes and of their impact on target audiences. Actual Radio listening has remained steady over the past few years around 50 per cent according to the studies. It is 53 per cent in rural areas and 46 per cent in urban areas as revealed by the household survey in June 2000.

There is no change in overall Actual listening during 1998-99 and 2000-2001. Whereas listenership in rural areas has fallen from 56 per cent to 53 per cent, the same has increased in urban areas from 44 per cent to 46 per cent.

SPORTS

During 2000-2001 All India Radio provided effective coverage to international and national sporting events held in India and abroad, viz., Summer Olympics in Sydney, Asia Cup Cricket at Dhaka, India vs Zimbabwe Cricket series in India, Wimbeldon Tennis Championship at London, Davis Cup Tie at Delhi, Asia Cup Tennis at Delhi, ATP Tour World Tennis Championship at Bangalore, International Nehru Cup Football Tournament at Bhopal, World Chess Championship at Delhi, etc. The National matches held in India, e.g., Senior National Tennis Championship at Delhi, Jawaharlal Nehru Hockey Tournament at Delhi, Senior National Hockey at Jammu, Santosh Trophy Football Tournament at Thrissur, Rovers Cup Football at Mumbai, IFA Shield Football Tournament at Kolkata, Subroto Mukherjee Cup Football Tournament at Delhi, Ranji Trophy Cricket at Mumbai, Irani Trophy at Mumbai, Deodhar Cricket Tournament at Chennai were also covered.

AKASHVANI ANNUAL AWARDS

All India Radio presents *Akashvani* Annual Awards to outstanding broadcasts of every calendar year in different disciplines and subjects. Special prizes *Lassa Kaul Awards* on National Integration and 'Correspondent of the Year' for excellence in News Reporting are also awarded. There is also an award for special topic documentary. This year's subject is "Empowerment of Women". An award at National level is given to the Best Choral Singing Group (Senior and Junior Groups) for competitions held for children at various regional centres. An award for "Audience Research/Survey Reports" has also been introduced from 1995. AIR also awards the Best Commercial Broadcasting Service Centre and awards for Technical Excellence. Under the Annual *Akashvani* Award competition a separate category on "Gandhian Ideology" is being introduced from this year.

DOORDARSHAN

Doordarshan, the national television of India, is one of the largest terrestrial networks in the world. The flagship of Doordarshan—DD-1—operates through a network of 1,042 terrestrial transmitters of varying powers reaching over 87 per cent of the population. There are 65 additional transmitters giving

terrestrial support to other channels. Doordarshan uses a large number of transponders on the Indian National Satellites (INSAT) and other satellites to network its terrestrial transmitters and also to extend coverage. Doordarshan has established programme production facilities in 49 cities across the country. Its programmes earned more than Rs 637 crore during the financial year 2000-2001 through commercial advertisements.

THE EARLY YEARS

The first telecast originated from a makeshift studio in the Akashvani Bhavan, New Delhi on 15 September 1959. A transmitter of 500 W power carried the signals within a radius of 25 km from Delhi. The regular service with a News bulletin was started in 1965. Television went to a second city Mumbai, only in 1972, and by 1975 Kolkata, Chennai, Srinagar, Amritsar and Lucknow also had television stations.

SITE

The first experiment with satellite technology in India, known as the Satellite Instructional Television Experiment (SITE), was conducted in 1975-76. This was, incidentally, the first attempt anywhere in the world at using the sophisticated technology of satellite broadcasting for social education. The year 1982 witnessed the introduction of a regular satellite link between Delhi and other transmitters, the starting of national programme and the era of colour television in the country. The Asian Games held in Delhi that year provided the impetus for these changes within a short period.

After 1992, television facilities began rapidly expanding and during certain periods the country got an additional transmitter every day. In the decade 1981-90, the number of transmitters increased from 19 to 519.

THREE-TIER SERVICE

Doordarshan has a three-tier primary programme service—national, regional and local. In the national programmes the focus is on the events and issues of interest to the whole nation. These programmes include news, current affairs, science, cultural magazines, documentaries, serials, music, dance, drama and feature films. The regional programmes originating from the state capitals and relayed by all transmitters in the respective state telecast programmes of interest at the state level, in the language and idiom of that particular region. The local programmes are area-specific and cover local issues featuring local people. All the major Indian languages also provide round-the-clock satellite channel programmes.

INFORMATION PROGRAMMES

On the National Network news bulletins are telecast in Hindi and English at regular intervals. All the major *Kendras* telecast news bulletins in their respective languages where the regional events are covered in greater detail. Some *Kendras* telecast regional news in Urdu also. Doordarshan has a number of programmes on current affairs where topical issues expressing various

viewpoints are discussed in-depth. Information programmes also include telecast on agriculture, rural development, health, family welfare, consumer's rights, environment, etc. There are programmes specially targeted for women, children and youth.

Doordarshan brings to its viewers all the major national and international sports and games through live telecast. There are other programmes on sports, including interviews with eminent sports persons, sports education, etc. Doordarshan also has an exclusive round-the-clock sports channel.

EDUCATIONAL TV

The educational programmes are at different levels ranging from basic health education for the not-so-well-educated to the higher education programmes for university students.

In 1961 India's first school television service was commissioned at Delhi for the institutions run by the Delhi Municipal Corporation. ETV programmes for school children are telecast from a number of regional *Kendras* in different languages covering both formal and informal education. The software for these programmes is produced by the Central Institute for Education Technology in Delhi and State Institutes of Education Technology of different states.

To put quality education within the reach of students residing even in small villages and towns, the University Grants Commission has a countrywide classroom telecast on the national network. Besides this, syllabus-based programmes for the students of Indira Gandhi National Open University are also being telecast on the national network.

An exclusive educational channel, DD-*Gyandarshan*, was started on 26 January 2000. This satellite channel is operated in collaboration with the Ministry of Human Resource Development through IGNOU.

ENTERTAINMENT

The entertainment programmes include music, dance, plays and serials. Feature films and programmes based on excerpts from feature films are also telecast on the national network and from the regional *kendras*.

METRO CHANNEL

In 1984 a second channel was added in Delhi to provide an alternative viewing to the heterogenous metropolitan population. Later, similar facilities were provided to viewers in Mumbai, Kolkata and Chennai. In 1993 these four terrestrial transmitters were linked through satellite to provide an exclusive entertainment channel for the urban audience. This service, known as DD-2 Metro Entertainment Channel, is now available terrestrially in 62 cities. In other parts of the country the programmes of this channel could be received through dish antennas or through cable operators. The metro channel predominantly aims at wholesome entertainment to all sections of viewership.

REGIONAL LANGUAGE CHANNELS

To provide additional software in the major languages of the country, some of which are spoken by more than 50 million people, Doordarshan has 11 regional language satellite channels. The programmes on these channels include the regional service, which is available terrestrially for an average of five hours daily in the concerned State and additionally round-the-clock on the satellite mode. These programmes are carried on the INSAT satellite which has foot-print over the entire country and the regional language programmes could be watched by people irrespective of their place of residence.

Doordarshan also operates two other channels—DD-News, telecasting news and news-based programmes round the clock, and DD-Sports, the only free-to-air channel available in India devoted exclusively to sports programmes.

INTERNATIONAL CHANNEL

Doordarshan-India, the international channel, is in operation from 1995 and reaches about 50 countries in Asia, Africa and Europe through PAS-1 and USA and Canada through PAS-4 and PAS-1 satellites. It is presently on the air round the clock each day.

AUDIENCE RESEARCH

The Audience Research Unit of Doordarshan, manned by professional researchers, is involved in studies on the various aspects of broadcasting. It also operates a system of viewership ratings on Doordarshan programmes each week. Audience Research is also monitoring the voluntary feedback from viewers and maintains Data Banks at the national and *kendra* levels.

VIEWERSHIP

Over the years Doordarshan's viewership has increased phenomenally and now an estimated 75 million homes have television sets which mean that 375 million people can watch Doordarshan programmes in their homes. Community TV sets have been established under various schemes operated by Central and State governments. In rural areas most of the privately-owned sets also act as community sets, attracting a number of viewers from non-TV homes and the total number who watch Doordarshan at least once in a week exceeds 500 million. In the last four years programmes of commercial channels operating from outside India have been available for some sections of the population, but Doordarshan has retained more than 50 per cent of the total viewership in urban areas and more than 90 per cent of the viewership in the rural areas in most of the States.

PRASAR BHARATI

All India Radio and Doordarshan functioned as departments under the Ministry of Information and Broadcasting. There were persistent demands that the electronic media should be free from Government control and they should have autonomy in their functioning. The Parliament passed an Act to give

autonomy to the media in 1990 itself, but at that time the Act was not notified. In 1997 the Government decided to notify this Act; Prasar Bharati, the autonomous Broadcasting Corporation of India, came into existence on 23 November 1997. A Board consisting of a chairman, an executive member and a number of part-time, full-time, ex-officio and elected members is to manage the affairs of Prasar Bharati. There is also to be a representative of the Government of India on the Board.

PRESS AND PRINT MEDIA

REGISTRAR OF NEWSPAPERS FOR INDIA

As per the provisions of the Press and Registration of Books (PRB) Act 1867 and Rules under it, the Registrar of Newspapers for India (RNI), commonly known as Press Registrar, is required, *inter alia* to submit an Annual Report to the Government on the status of newspapers before 30 September every year. According to the report submitted by the Press Registrar for the year 2000, the total number of newspapers and periodicals being published in India was 49,145 as compared to 46,655 during 1999, registering an increase of 5.34 per cent. There were 5,364 dailies, 339 tri/bi-weeklies, 17,749 weeklies, 6,553 fortnightlies, 13,616 monthlies, 3,425 quarterlies, 431 annuals and 1,668 bi-monthlies/half yearlies, etc. Newspapers were published in as many as 101 languages and dialects during 2000. The largest number of newspapers, (19,685) were published in Hindi, followed by English (7,175) and Urdu (2,848). Daily newspapers were brought out in all the principal languages except Kashmiri.

Newspapers were published from all states and union territories. Uttar Pradesh with 8,750 newspapers retained the prestigious position of publishing the largest number of newspapers in any state. In the case of dailies also Uttar Pradesh held the top position with 873 newspapers. *Bombay Samachar*, a Gujarati daily published from Mumbai since 1822, is the oldest existing newspaper.

As per the RNI's report, the total claimed circulation of the Indian newspapers during 2000 was 12,69,63,763 copies. *The Hindustan Times*, English daily published from Delhi and printed from New Delhi, Gurgaon, Kolkata, Ranchi, Chandigarh, Bhopal and Jaipur was the largest circulated single edition newspaper with a claimed circulation of 8,47,346 copies, followed by *The Hindu*, English daily published from Chennai and printed from Chennai, Coimbatore, Hyderabad, Bangalore, Madurai, Visakhapatnam, Delhi, Thiruvananthapuram and Kochi with 7,79,851 copies. *Ananda Bazar Patrika*, Bengali daily from Kolkata came third with 7,54,348 copies. The largest circulated multi-edition daily was *The Times of India* in having seven editions in English with a total claimed circulation of 16,87,099 copies. *Malayala Manorama*, having eight editions in Malayalam with a total claimed circulation of 12,08,001 copies was at the second position. *Dainik Jagaran*, having 11 editions in Hindi with a total claimed circulation of 11,38,035 copies, occupied the third position.

Saras Salil, the Hindi fortnightly from Delhi, was the largest circulated periodical with a claimed circulation of 11,38,431 copies followed by *Malayala Manorama*, Malayalam weekly from Kottayam with a claimed circulation of 10,31,461 copies.

TABLE 11.1 : NUMBER OF NEWSPAPERS IN 2000
(LANGUAGE AND PERIODICITY-WISE)

Languages	Dailies	Tri/Bi-weeklies	Weeklies	Fort-nightlies	Monthlies	Quarterlies	Bi-monthlies/ Half-yearlies, etc.	Annually	Total
English	390	30	942	711	2,868	1,255	811	168	7,175
Hindi	2,393	125	9,910	2,994	3,389	628	213	33	19,685
Assamese	16	3	77	39	62	12	10	1	220
Bengali	99	15	618	527	710	477	179	18	2,643
Gujarati	141	12	939	210	541	59	50	14	1,966
Kannada	332	6	377	246	635	48	20	4	1,668
Kashmiri	0	0	1	0	0	0	0	0	1
Konkani	1	0	3	1	1	1	0	0	7
Malayalam	216	6	175	158	776	60	32	8	1,431
Manipuri	14	0	6	5	10	6	4	0	45
Marathi	371	20	1,295	210	542	117	44	118	2,717
Nepali	3	2	23	6	9	16	6	0	65
Oriya	76	2	157	86	276	90	23	4	714
Punjabi	107	15	362	94	250	32	18	1	879
Sanskrit	3	0	9	4	16	15	6	0	53
Sindhi	11	0	38	11	36	8	2	0	106
Tamil	356	43	400	231	872	33	22	8	1,965
Telugu	164	3	259	201	530	28	13	2	1,200
Urdu	525	20	1,328	371	518	65	18	3	2,848
Bilingual	74	19	638	350	1,221	357	150	35	2,844
Multilingual	17	4	108	68	228	69	35	13	542
Others	55	14	84	30	126	49	12	1	371
Total	5,364	339	17,749	6,553	13,616	3,425	1,668	431	49,145

PRESS INFORMATION BUREAU

The Press Information Bureau (PIB) is the nodal agency of the Government of India to disseminate information to the print and electronic media on government policies, programmes, initiatives and achievements. Functioning as an interface between the Government and the media, the PIB also provides feedback to the Government with people's reaction as reflected in the media. With its eight Regional Offices and 32 Branch Offices and Information Centres, the PIB disseminates information through different modes of communication,

such as press releases, press notes, feature articles, backgrounders, press briefings, interviews, press conferences and press tours, etc. The information material released in Hindi, Urdu and 13 other regional languages reaches about 7,000 newspapers and media organisations.

The Bureau at headquarters has a team of officers who are attached to various ministries and departments for the purpose of assisting them in disseminating information to the media through press releases and press conferences, etc., and advise on all matters pertaining to publicity activities. They also provide feedback to their respective ministries and departments. As part of the Special Services, the Feedback Cell in the PIB prepares a daily digest and special digests based on news stories and editorials from national as well as regional dailies and periodicals. The Feature Unit of the Special Services of the Bureau provides backgrounders, updates, features and graphics. These are circulated in the national network and also sent to the Regional and Branch Offices for translation and circulation to the local press. PIB arranges photo coverage of Government activities and the photographs are supplied to dailies and periodicals published in English and other Indian languages all over the country. During 2000-2001, 2,79,573 photographs were supplied to the newspapers and periodicals.

The PIB web site (www.pib.nic.in) is becoming more and more popular with the media. The web site was reviewed and a new comprehensive facility for database search on PIB's publicity material was added. This web site is updated every hour. The Bureau is linked with 33 of its Regional and Branch Offices over computer network to facilitate fast feeding on dissemination of information. The Bureau is connected to 22 regional centres by video conferencing system to enable media persons at regional centres participate in press conferences in New Delhi and in other parts of the country. The Bureau organised series of multiple video conferencing between its headquarters and Regional/Branch Offices. The Bureau provided computers with Internet and e-mail facilities to all its departmental publicity officers and sections. One additional computer and printer was given to all Branch Officers during the year because of increased use of computers and increased workload. All Regional/Branch Offices have been put on internet/mail with ISD connections. At headquarters, new services such as UNI/PTI ticker on network, full page newspaper, electronic library were added during the year.

PIB provides accreditation to media persons so as to make easy access to information from government sources. At the headquarters of the Government of India, about 1,100 correspondents and 250 cameramen are accredited. Apart from that PIB has granted professional facilities to 70 editors/media critics and 130 technicians.

The Bureau's eight Regional Offices are located at Mumbai, Chennai, Chandigarh, Kolkata, Lucknow, Guwahati, Bhopal and Hyderabad. A National

Press Centre set up in the Press Information Bureau, New Delhi serves as a nerve centre for both national and international press. The Centre has all the facilities of international standards including a telecommunication centre, a press conference hall and a cafeteria.

NEWS AGENCIES

PRESS TRUST OF INDIA

India's largest news agency, Press Trust of India (PTI) is a non-profit sharing cooperative owned by the country's newspapers with a mandate to provide efficient and unbiased news to all its subscribers. Founded on 27 August 1947, PTI began functioning from 1 February 1949.

PTI offers its news services in the English and Hindi languages. *Bhasha* is the Hindi language news service of the agency. PTI subscribers include 500 newspapers in India and a large number abroad. All major TV/Radio channels in India and several abroad, including BBC in London, receive PTI service.

PTI now has its own satellite delivery system through a transponder on an INSAT satellite for reaching its services directly to subscribers anywhere in the country. Photo service is delivered by satellite as well as accessed by dial-up. PTI is now on the Internet at : <http://www.ptinews.com>.

With a staff of over 1,500 including 400 journalists, PTI has over 100 bureaux across the country and foreign correspondents in major cities of the world including Beijing, Berlin, Colombo, Dhaka, Dubai, Islamabad, London, Moscow, New York and Washington. In addition, about 500 stringers contribute to the news file at home while 20 part-time correspondents bring news from the rest of the world.

Besides the news and photo services, the other services of the agency include mailer packages of Feature, Graphics, Science Service, Economic Service and Data India, and screen-based services such as News-scan and Stockscan. A television wing, PTI-TV, does features and undertakes corporate documentaries on assignment basis.

PTI has arrangements with the Associated Press and Agence France Presse for distribution of their news in India. AP's photo and international commercial information services are also distributed in India through PTI. PTI is a partner in Asia Pulse International, a Singapore-registered company, formed by PTI and five other Asian media organisations to provide an on-line data bank on economic developments and business opportunities in Asian countries. PTI is also a participant in Asianet, a cooperative arrangement among 12 news agencies of the Asia-Pacific region for distribution of corporate and Government press releases.

PTI is a leading participant in the Pool of News Agencies of the Non-Aligned Countries and the Organisation of Asia-Pacific News Agencies. It also

has bilateral news exchange arrangements with several news agencies belonging to the countries of Asia, Africa, Europe and Latin America.

UNITED NEWS OF INDIA

United News of India (UNI) was launched on 21 March 1961, and has now grown into one of the largest news agencies in Asia with about 90 bureaux in India and abroad. It has more than 1,000 subscribers in India and abroad, especially in the Gulf States. It has correspondents in all the major cities and towns of India as well as several major world capitals. UNI has collaboration with several foreign news agencies, including Reuters, DPA, IPS, RIA Novosti and United News of Bangladesh. It has more than 320 journalists on its staff and more than 250 stringers.

UNI launched a full-fledged Indian language news service, *Univarta*, in Hindi in May 1981. A decade later, it launched a wire service in Urdu for the first time in the world.

In 1987, UNI launched a national Photo Service, a pioneering venture. It has collaborated with AFP of France for this service. UNI also supplies computer-designed Graphics in ready-to-use form on economic and other topical subjects every day to newspapers in English and Hindi.

NON-ALIGNED NEWS AGENCIES POOL

The Non-Aligned News Agencies Pool (NANAP) is an arrangement for exchange of news among the news agencies of non-aligned countries who for long were victims of imbalances and bias in the flow of news. The Pool came into existence in 1976 with India as its first Chairman (1976-79). The Pool is a world-wide operation embracing four continents, *viz.*, Asia, Europe, Africa and Latin America. The Pool news is exchanged in four languages—English, French, Spanish and Arabic.

Pool activities are coordinated by an elected body known as the Coordinating Committee with a Chairman as its head. The Chairmanship, is co-terminus with the tenure of the Coordinating Committee and goes by rotation. The members of the Coordinating Committee are elected on the basis of regional representation, continuity, active participation and rotation. The Coordinating Committee meets once a year and the meetings are open to all member agencies.

Six General Conferences and 17 regular and one special meetings of the Coordinating Committee have taken place since the inception of the Pool. The last General Conference of the Pool was held in Tehran in June 1992, when the Iranian news agency IRNA assumed the Chairmanship of the Pool from ANGOP of Angola. A special meeting of the Coordinating Bureau was held in Belgrade in September 2000 where the Yugoslav news agency Tanjug agreed to host the next regular meeting of the Coordinating Committee.

The countries represented on the Coordinating Committee are India, Indonesia, Vietnam, DPR Korea, Kuwait, Syria, Mongolia, Bahrain, Afghanistan,

Lebanon and Oman from Asia; Angola, Algeria, Burkina Faso, Congo, Ethiopia, Egypt, Ghana, Guinea-Bissau, Morocco, Mozambique, Namibia, Senegal, Sudan, Tanzania, Tunisia and Zambia from Africa; Yugoslavia from Europe; and Bolivia, Cuba, Ecuador, Mexico, Peru, Surinam and Venezuela from Latin America.

India has played a vital role in the creation and expansion of the Pool. India News Pool Desk is operated by Press Trust of India. The agency receives news copy from Pool Partners and in turn contributes Indian news into the exchange arrangement on a daily basis. The incoming news traffic from Pool member agencies into PTI is in the range of 15,000 to 20,000 words per day. PTI's contribution into the network is between 7,000 to 8,000 words per day. The news is exchanged through a network of satellite/terrestrial/E-mail communication links with Antara (Indonesia), Bernama (Malaysia), GNA (Bahrain), VNA (Vietnam), Prensa Latina (Cuba), BSS (Bangladesh), RSS (Nepal), SANA (Syria), MAP (Morocco) and NAMP (Namibia). Leading national dailies of the country publish between 20 to 30 Pool items in a month.

As part of the News Pool operation, the Indian Institute of Mass Communication, New Delhi, which is recognised as a premier institute for training in journalism in the Non-Aligned countries, has been offering a regular course in news agency journalism. The five-month twice a year course is popular with journalists of both the print and electronic media belonging to the non-aligned countries.

PRESS COUNCIL OF INDIA

The Press Council of India has been established under an Act of Parliament for the purpose of preserving the freedom of the press and of maintaining and improving the standards of newspapers and news agencies in India. The Chairman of the Council is by convention, a retired judge of the Supreme Court of India. The Council has 28 members - 20 from the newspaper world, five are Members of Parliament (three nominated by the Speaker of the Lok Sabha and two by the Chairman of the Rajya Sabha) and remaining three are nominated by the Sahitya Akademi, the Bar Council of India and the University Grants Commission. The Council is reconstituted every three years. The Council has its own source of revenue in that it collects levy from the registered newspapers and news agencies. It also receives grant-in-aid from the Central Government for performing its functions.

As an autonomous quasi-judicial body, the aim of the Press Council is to administer ethics and to inculcate principles of self-regulation among the Press. It also keeps under review any development likely to interfere with the freedom of the Press. The Council discharges its functions primarily through adjudications on complaint cases received by it, either against the Press for violation of journalistic ethics or by the Press for interference with its freedom. Where the Council is satisfied during the inquiry that a newspaper or a news agency has offended against the standards of journalistic ethics or public taste or that an editor or working journalist has committed

any professional misconduct, it may warn, admonish or censure them or disapprove of their conduct. The Council is also empowered to make such observations as it may think fit in respect of the conduct of any authority, including Government, for interfering with the freedom of the press. The decisions of the Council are final and cannot be questioned in any court of law.

In mid 2000, the process of reconstitution of the Council for its eighth term was initiated. The Council's term was to end on 28 March 2001.

During 2000-2001, the Press Council of India received 1,204 complaints of which 404 were filed by the Press and 800 were against the Press. 800 cases were already pending. Of these the Council adjudicated 515 cases. 867 cases were dismissed by the Council at the preliminary stage for lack of sufficient grounds for inquiry. The Council thus disposed of 1,382 matters during 2000-2001.

Press Council Act, 1978 also empowers the Council *suo moto* to initiate studies on various matters that have bearing on the freedom of the Press and its standards.

On the National Press Day observed on 16 November 2000, the Press Council organised a seminar on the 'Role of Media preparing people to cope with disasters'. The Council also organised a three-day SAARC Media Conference from 17 to 19 November 2000.

RESEARCH REFERENCE AND TRAINING DIVISION

The Research, Reference and Training Division (RR&TD) functions as an information servicing agency to the Ministry of Information and Broadcasting and its media units. Its functions include providing background notes and reference papers on current topics and preparing publicity material for the use of the Ministry and its offices. The Division brings out backgrounders, reference papers, fact-sheets on topics of national importance, biographical sketches of eminent personalities and also an annual programme calendar of national events. The Division also brings out a monthly, *Development Digest*, focusing on development issues and two fortnightlies *Media Update* highlighting national and international media events and *Diary* focusing on major national and international events.

The Division compiles and edits the book entitled *INDIA*, a reference annual every year. The annual is a well-documented volume and highly rated as a book of reference by research scholars, journalists, officials and others. It was first published in 1953 and so far 45 editions have been released. The Annual contains information on India's geographic and demographic features, its polity and economy, its plans and programmes for socio-economic development, etc. The annual programme calendar entitled *Events 2001* was brought out in Hindi and English.

The Division maintains a well-stocked library having over 66,000 books as well as bound volumes of reports and periodicals. Its collection includes

specialised books on journalism, public relations, advertising and audio-visual media, encyclopedia series, year-books and contemporary articles. During 2000-2001, 369 new titles were added to the library, of which 101 books are in Hindi on various subjects. The library caters to the needs of the Ministry of Information and Broadcasting and its media units as also accredited media representatives. It has a total membership of about 1,000 readers. The Division has introduced 'Composite Library Information Management System' to provide on-line referral services to the users.

The Division has a National Documentation Centre on Mass Communication which was created in 1976 on the recommendation of an Experts Committee set up by the Ministry. Its main objectives are collecting, interpreting and disseminating information about the events and trends in mass media, including press, radio, television, advertising, traditional and folk media and the media units of the Central and State governments. It also disseminates information through seven regular documentation services. The Centre brings out an annual on mass communication under the title *Mass Media in India*.

The Division coordinates training of Indian Information Service (IIS) officers Group 'A' and Group 'B' in collaboration with the Indian Institute of Mass Communication (IIMC), New Delhi. The training reflects the Government's emphasis on manpower planning and development.

PHOTO DIVISION

Photo Division is the biggest production unit of its kind in the country, in the field of photography. The Division is responsible for preparing photographs for internal and external publicity on behalf of the Government of India. It provides photographic visuals to the media units of the Ministry of Information and Broadcasting and other Central and State government departments, and the Indian Missions abroad through the XP Division of Ministry of External Affairs. It undertakes extensive photo coverage of the visits of the President, the Vice-President and Prime Minister to various parts of the country and abroad. The Division also supplies photographs/colour slides on payment to non-publicity organisations and general public. It has well equipped laboratories and equipment for handling different kinds of photographic jobs and assignments. A Digital Photo Bank has been installed in the headquarters in Delhi. The Division has four regional offices in Mumbai, Kolkata, Chennai and Guwahati. During 2000-01, the Division earned a revenue of Rs 13.47 lakh by supplying photographs. A News Photo Network linking all regional offices for photo publicity of Government activities has been installed. The process of storing the current events photographs into the News Photo Network is also in progress. Photo Division is also placing photographs on the Internet through PIB website.

Photo Division provided an extensive coverage of G-15 Summit held in Cairo, Egypt, attended by the Vice-President. Photo Division undertook extensive photo coverage of Prime Minister's visit to USA, Rome, Italy, Vietnam and Ir lonesia.

PUBLICATIONS DIVISION

The Publications Division is one of the largest publishing houses in the country. It produces books and journals on matters of national importance and makes them available to readers at affordable prices. The Division has so far published about 7,000 titles, of which about 1,500 are still live. In 2000-2001, it brought out 155 books. The subjects covered range from art, history, culture, biographies of eminent persons, land and people, flora and fauna, science and technology, Gandhian literature, to works of reference like *INDIA*—a reference annual, and *Mass Media in India* (both edited and compiled by the Research, Reference and Training Division). Selected speeches of Presidents and Prime Ministers are also published.

The Division has to its credit what is perhaps the largest multi-volume project, *The Collected Works of Mahatma Gandhi* in 100 volumes in English and Hindi. It has also brought out multi-media interactive CDs in English and Hindi based on the *Collected Works*. They contain 15 minutes of his voice, 30 minutes of film footage, 550 photographs and over 55,000 pages of his writings and speeches.

During 2000-2001, important titles like—*50 Years of Indian Republic*, *Marine Archaeology in India*, *Presidents Speak to the Nation* (from 1950-2000), *Tennis in India* (English) and *Nobel Puraskar Vijeta Mahilayen*, *Upagraha Ke Bahar Bheeter—Bharat Ke Hastakshar* and *Ashtchhap Kaviyon Ki Rachnayan* (Hindi) were published.

The Publications Division also brings out 21 journals in Hindi, English and various Indian languages. *Yojana*, published in 13 Indian languages is devoted to planning and development. *Kurukshetra* in English and Hindi focuses on rural development. *Ajkal* in Hindi and Urdu, is devoted to literature. *Bal Bharati* provides young readers highly informative and educative literature. The *Employment News/Rozgar Samachar*, a weekly published in English, Hindi and Urdu provides information about job opportunities and has a circulation of more than five-and-a-half lakh.

The Division gives *Bharatendu Harishchandra Awards* to encourage original creative writing in Hindi in various disciplines of mass communication. Awards are also given for children's literature, books on national integration and women issues.

AUDIO-VISUAL MEDIA

Feature films are being produced in India since 1912-13. While R.G. Torney along with N.G. Chitre made *Pundalik* in 1912, Dhundiraj Govind Phalke (1870-1944) produced *Raja Harishchandra* in 1913. The era of silent films was overtaken by the talkie era in 1931 when Ardeshir Irani (1886-1969) produced *Alam Ara*, though silent movies continued to be produced till 1934. India leads the world in the annual output of feature films.

CENTRAL BOARD OF FILM CERTIFICATION

Films can be publicly exhibited in India only after they have been certified by the Central Board of Film Certification (CBFC). The Board set up under the Cinematography Act, 1952, consists of a Chairman and a minimum of 12 and a maximum of 25 non-official members, all appointed by the Government. The Board functions with headquarters at Mumbai and nine regional offices at Bangalore, Mumbai, Kolkata, Hyderabad, Chennai, Thiruvananthapuram, New Delhi, Cuttack and Guwahati. The films produced in 14 languages are certified by nine offices all over the country. The regional offices are assisted in the examination of films by members of advisory panels which include eminent educationists, art-critics, journalists, social workers, psychologists, etc. The Board examines films for certification in accordance with the provisions contained in the Cinematography Act, 1952, the Cinematography (Certification) Rules, 1983 and the guidelines issued by the Central Government. The Film Certification Appellate Tribunal, New Delhi hears appeals against the decision of the CBFC. In 2000, the Board certified 855 Indian and 252 foreign feature films, 1,058 Indian and 194 foreign short films, 111 Indian video feature films and 38 foreign video feature films, 503 Indian video short films and 167 foreign video short films.

FILMS DIVISION

The Films division was established in 1948 to record, propagate and preserve the achievements of a resurgent independent India on celluloid. It has been the vital link between the people and the Government apart from its pioneering role in spreading the documentary film movement in India and the world. It is the largest national agency devoted to the production and distribution of newsmagazines, quickies and documentaries.

Apart from its newsmagazines and documentaries the Films Division also produces story-based featurettes and educational films both in-house and for various ministries and departments of the Government of India and other State Governments. Its cartoon unit has a unique place of pride in the country churning out most delightful and educative animation shorts.

The Films Division produces and dubs all the released films in all the regional languages apart from Hindi and English. It has ten distribution branch offices located at Bangalore, Mumbai, Kolkata, Hyderabad, Lucknow, Chennai, Madurai, Nagpur, Thiruvananthapuram, and Vijayawada. Films Division has an archive with more than 8,000 titles on variety of subjects.

Films Division started the Mumbai International Film Festival for Documentary, Short and Animation Films (MIFF) in 1990. Since then MIFF has grown in stature. At the sixth MIFF held during 3-9 February 2000, 542 entries from 34 countries were received. The seventh MIFF is scheduled to be held in February 2002.

The Films Division organises film festivals in different parts of the

country. During 2000-2001 the Documentary Film Festivals were organised in Jamshedpur, Jaipur and Chennai. The first ever Delhi International Film Festival for Documentary, Short and Animation Films (DIFF 2001), was a non-competitive festival. Over 100 films from 15 participating countries were screened during the Festival.

During 1999-2000, the Films Division produced 34 news magazines and 84 documentaries/short featurettes and video films and earned revenue amounting to Rs 13.77 crore.

NATIONAL FILM DEVELOPMENT CORPORATION LIMITED

The National Film Development Corporation (NFDC) Limited incorporated in 1975, was restructured in 1980 after amalgamation of the Indian Motion Picture Export Corporation (IMPEC) and Film Finance Corporation (FFC). The primary objective of NFDC is to foster excellence in cinema and to develop state-of-the-art technology in audio-visual and related fields. The main activities of the corporation include financing and producing films with socially relevant themes, creative and artistic excellence and experimental in form; distribution and dissemination of films through various channels. NFDC also provides essential pre-production and post-production infrastructure to the film industry, in pace with the latest technology, which includes financing of theatre construction. NFDC also endeavours to promote culture and understanding of cinema by organising film weeks, Indian panorama and film festivals in collaboration with film societies, National Film Circle and other agencies representing Indian and foreign films.

NFDC encourages the concept of low-budget films which are high in quality, content and production values. During 2000-01 (up to November 2000) production of three films in different languages were completed and six films were under production. The Corporation acquired 28 foreign films for television and satellite rights and exported 46 films during the same period. NFDC's 16mm film centre, Kolkata provides production and post-production facilities to the film industry of eastern-region. At the NFDC's laser sub-titling unit, Mumbai sub-titling in all the Latin character foreign languages and Arabic are being done. The unit also undertakes video sub-titling in various regional and foreign languages.

The Cine Artists' Welfare Fund of India, set up by NFDC, is the biggest ever trust in the Indian Film Industry with a corpus of Rs 4.16 crore. During 2000-01 (up to November), an amount of Rs 35 lakh was disbursed as pension to cine artists.

DIRECTORATE OF FILM FESTIVALS

The Directorate of Film Festivals (DFF) was set up by the Government of India under the Ministry of Information and Broadcasting in 1973 with the prime objective of promoting good cinema. Since then, the Directorate has provided a platform for the best in Indian cinema by holding the National Film Festival every year. It is also a vehicle for promoting cultural understanding and friendship at the international level. Within the country, it has made the latest

trends in world cinema accessible to the general public. The activities of the Directorate include, organising National Film Awards; organising International Film Festival of India, participation in International Film Festivals abroad; selection of Indian 'Panorama' Films; conduct of Indian Film Weeks abroad and Foreign Film Weeks in India under cultural exchange programmes; special film expositions on behalf of the Government of India from time to time; print collection and documentation.

The 31st International Film Festival of India (IFFI) was held in New Delhi in January 2000. Beginning with the year 2001, the month for holding the International Film Festival has been shifted from January to October. However, the 32nd International Film Festival of India scheduled to be held in Bangalore from 10-20 October 2001 was cancelled.

The Directorate of Film Festivals under the cultural exchange programmes of India organised Festival of Films from European Union, PR of Korea, Poland, Iceland, Japan and Greece. Indian Film Weeks were also organised in China, France, North Korea, Brazil, Sri Lanka and Chicago (USA).

NATIONAL FILM ARCHIVE OF INDIA

The National Film Archive of India (NFAI), established in 1964, has three principal objectives, *viz.*, (i) to trace, acquire and preserve the national film heritage for posterity; (ii) to clarify and document data and promote research relating to films and (iii) to act as a centre for dissemination of film culture. NFAI has been a member of the International Federation of Film Archives since May 1969, which enables it to get expert advice and material on preservation techniques, documentation, bibliographies, etc., and to exchange rare films with other members. As a part of its activities under dissemination of film culture, NFAI's headquarters at Pune and three Regional Offices at Bangalore, Kolkata and Thiruvananthapuram extend distribution library facilities to the members throughout the country. NFAI also conducts joint screening programmes at Mumbai, Kolkata, Bangalore, Chennai, Hyderabad, Thiruvananthapuram, Cochin, Jamshedpur and Pune. Long and short-term courses in Film Appreciation are conducted in collaboration with FTII and other educational institutions and cultural organisations.

CHILDREN'S FILM SOCIETY, INDIA

Children's Film Society, India (CFSI) also known as National Centre of films for Children and Young People (N'CYP) was established in 1955 to provide value-based entertainment to children through the medium of films and is engaged in production, acquisition, distribution and exhibition of such films. The head office of the CFSI is located in Mumbai with branch/zonal offices in New Delhi and Chennai. Films produced/procured by the Society are exhibited through state/districtwise package programmes. During 2000-01, 88 programmes comprising over 2,064 shows with an audience of 12.11 lakh were organised. The films produced by CFSI screened in various National and International Film Festivals have won many awards. CFSI holds its own International Film Festival every alternate year.

DIRECTORATE OF ADVERTISING AND VISUAL PUBLICITY

The Directorate of Advertising and Visual Publicity (DAVP) is the central agency of the Government of India for undertaking advertising and audio visual publicity campaigns on behalf of various Ministries, Departments and autonomous bodies, except Railways and provides them a single-window service. The means of communication used are press advertisements, outdoor publicity, exhibitions and audio-visual and printed publicity materials like posters, folders, brochures, booklets, etc.

With headquarters in New Delhi, DAVP has two regional offices at Bangalore and Guwahati, two regional distribution centres at Kolkata and Chennai. There are 35 field exhibition units spread all over the country.

PRESS ADVERTISEMENTS

DAVP empanels newspapers/periodicals for release of advertisements on behalf of different Ministries/Departments of Government of India and some autonomous bodies. The empanelment of newspapers/journals is done as per the new Advertisement Policy which came into force from 14 February 2001. More than 2,400 newspapers/journals from all over the country are on DAVP's panel. In a year, nearly 1,60,000 press advertisements are released on all-India basis in Hindi, English and regional languages to the newspapers and periodicals on DAVP's panel.

EXHIBITIONS

DAVP put up over 400 exhibitions in different parts of the country on themes like national integration and communal harmony, health and family welfare, developmental programmes and other topical issues. This is done through its network of 35 Field Exhibition Units. These include seven Van Units, seven Family Welfare Units and 21 General Units.

PRINTED PUBLICITY

DAVP brings out publicity material like posters, folders, booklets, brochures, diaries, calendars, wall hangers, stickers, etc., in different languages on schemes/programmes aiming at socio-economic uplift of the poor and welfare of the common man. Nearly 700 publications are printed in a year with print order around two crore.

OUTDOOR PUBLICITY

In a year, nearly 350 hoardings, 2,500 kiosks, equal number of wall paintings, over 9,000 bus panels and five series of cinema slides on an average (each comprising 9,000 slides in 13 languages) are put on display on various programmes and themes of the Government.

AUDIO-VIDEO PUBLICITY

DAVP produces radio spots/jingles, sponsored programmes, video spots/quickies, documentaries and short-duration films on behalf of various Central Ministries, Departments and autonomous bodies. In a year, nearly 4,500 audio

programmes and 150 video programmes are produced in Hindi, English and regional languages. These programmes are broadcast/telecast through AIR/Doordarshan. The Directorate has an art studio equipped with an advanced DTP Cell for designing publications, press advertisements, etc.

MASS MAILING WING

The Mass Mailing Wing of DAVP has an address bank of over 16 lakh addresses comprising nearly 560 categories. In a year, nearly 1.6 crore copies are mailed all over the country.

DIRECTORATE OF FIELD PUBLICITY

The Directorate of Field Publicity (DFP) is the largest rural-oriented inter-personal communication medium in the country, which acts as a two-way bridge between the people and the Government. It was established in 1953, under the name "Five Year Plan Publicity Organisation", publicity of Five year Plans being its sole objective. In December 1959, the organisation was renamed the Directorate of Field Publicity. Over the years, however, its areas of operation, as also its aims and objectives, have expanded. These aims and objectives in brief are: (a) to inform the people about the programmes and policies of the Government by bringing its men and material face to face with the people at large; (b) to educate the people about the fundamental national principles of secularism, democracy and socialism; (c) to mobilize public opinion for the implementation of developmental programmes and muster popular participation in the process of nation building and (d) to keep the Government informed of the people's reactions to its programmes and policies, and their implementation at the field level, facilitating thereby the application of corrective measures as and when required. The Directorate resorts very largely to inter-personal communication like group discussions, public meetings, seminars, symposia, etc., to convey its messages to the people. Visual support is provided in the form of films and photo exhibitions. Competitions like singing, *rangoli*, debates, essays, sports, etc., are also organised.

The Directorate, with its headquarters at New Delhi, has 22 Regional Offices and 268 Field Publicity Units. During 2000-2001, the Field Publicity Units covered prominent fairs and festivals including the historic Kumbh Mela at Allahabad (UP), Kullu Dussehra festival at Kullu (HP), Rath Jatra of Puri (Orissa), Urs at Ajmer (Rajasthan) and cattle fair at Sonapur (Bihar). The Units organised 31,268 film shows, 8,111 oral communication programmes, 10,467 special programmes, 52,123 group discussions, 3,675 seminars/symposia and 34,847 photo exhibitions. The Regional Offices organised ten conducted tours of opinion leaders to visit places of industrial and agricultural development in the North-Eastern States.

SONG AND DRAMA DIVISION

Song and Drama Division was set up in 1954 as a unit of All India Radio and was given the status of an independent media unit in 1960 as a subordinate office of the Ministry of Information and Broadcasting. It was

established for tapping the resourceful live media, particularly the traditional and the folk forms for Plan publicity. It has the advantage of instant rapport with the people and the flexibility in its forms to incorporate new ideas effectively. It utilises a wide range of stage forms such as drama, folk and traditional plays, dance-drama, folk recitals and puppet shows besides the Sound and Light medium to focus the attention of the audience on important aspects of the country's life and development in different fields.

The Division has 10 regional centres at Bangalore, Bhopal, Chandigarh, Chennai, Delhi, Guwahati, Kolkata, Lucknow, Ranchi and Pune. It has nine sub-centres located at Bhubaneswar, Darbhanga, Hyderabad, Imphal, Jodhpur, Nainital, Patna, Shimla and Jammu.

Border Publicity Scheme was introduced in Song and Drama Division in 1966 with the objective to boost up morale of the people along the sensitive international boundaries and keep them bound to the country's unity and integrity. In 1967 Armed Forces Entertainment Wing was set up with a view to entertain the *Jawans* posted in forward areas. Of the nine troupes one is located at Chennai and the rest in Delhi. A new medium, an amalgam of Sound, Light and Live action was adopted by Song and Drama Division in 1967. There are three Sound and Light Units one each at Allahabad, Bangalore and Delhi. In 1981, the Division set up a tribal centre at Ranchi for participation of tribals in the programme activities. The centre covers Jharkhand, Bihar, Orissa, Chhattisgarh and Madhya Pradesh.

TRAINING

FILM AND TELEVISION INSTITUTE OF INDIA

Film and Television Institute of India (FTII), Pune imparts technical training in the art of filmmaking and television programme production. The TV Wing also provides in-service training to the employees of Doordarshan and conducts short-term TV Orientation Course for the Indian Information Service officers.

The Institute regularly enters the student diploma films in various national and international film festivals. The student film *Jee Karta Tha* won national film award for the Best Short Fiction Film at the 46th National Film Awards 1999. In the 47th National Film Awards 2000, *Of Confucius S-Spots and Toyguns* won national award for Best Editing of a Non-feature Film. This film also won Special Jury Award. Another film *Fire* received Special Mention. In the Asia Pacific Film School Competition sponsored by Kodak *A Short Film About War* selected as a national winner for its supremacy in Cinematography, bagged the award. FTII film *Teevra Madhyam*; the debut film of Smita Patil, directed by Arun was shown in many European countries.

Every summer, FTII with NFAI conducts a four-week course in Film Appreciation.

SATYAJIT RAY FILM AND TELEVISION INSTITUTE

Satyajit Ray Film and Television Institute (SRFTI), Kolkata, an autonomous academic institution under the Ministry of Information & Broadcasting, was registered in 1995 under the West Bengal Societies Registration Act, 1961. The Institute is a National Centre offering post-graduate diploma courses of 3-year duration in (i) Film Direction & Screenplay Writing; (ii) Motion Picture Photography; (iii) Editing (Film & Video) and (iv) Sound Recording. Films *Bhor* and *Meena Jha* produced by the first batch of students have won three national awards.

INDIAN INSTITUTE OF MASS COMMUNICATION

The Indian Institute of Mass Communication is an autonomous centre for advance study in mass communication, research and training. It was established in 1965 and registered under the Societies Registration Act (XXI) of 1860. The Institute is fully funded by the Government of India through the Ministry of Information and Broadcasting. It has branches at Dhenkanal (Orissa), Kottayam (Kerala), and Dimapur (Nagaland).

The Institute conducts the following major courses: (1) Orientation Course for officers of the Indian Information Service (Group A); (2) Post-graduate Diploma Course in Journalism (English); (3) Post-graduate Diploma Course in Journalism (Hindi); (4) Post-graduate Diploma Course in Advertising and Public Relations; (5) Post-graduate Diploma Course in Radio and TV Journalism; and (6) Diploma Course in Development Journalism for Non-aligned and developing countries. The Institute conducts each year a number of specialised short courses and workshops to meet the training needs of media personnel working in Central/State governments, public sector organisations and courses for army officers. In addition, the Institute organises refresher courses for the Indian Information Service personnel working in various Media Units of the Central Government.

Over the years, the Institute has conducted several major research projects for a number of international organisations, government and non-government bodies. IIMC has launched its website which can be accessed at www.iimc.ac.in.

STAFF TRAINING INSTITUTE (PROGRAMME)

The Staff Training Institute (Programme) - STI (P) of All India Radio established in 1948 at Delhi imparts in-service training to various cadres of programme staff of All India Radio including administrative staff of Akashvani and Doordarshan. Besides, there is one STI(P) at Cuttack and five Regional Training Institutes at Hyderabad, Shillong, Ahmedabad, Thiruvananthapuram and Lucknow to cater to the training needs of the Radio Stations in their respective regions. It is conducting various departmental examinations for administrative staff.

The Institute provides training in personnel and financial management for senior level officers, basic course for programme executives. Now STI(P)

is adopting more practical methods in training, keeping in view the changing scenario in broadcast communication. During 2000-01 STI (P) conducted 99 training courses for 1,519 personnel. This year's main thrust of training is on computers in AIR, participatory programmes, presentation techniques and marketing of AIR time.

STAFF TRAINING INSTITUTE (TECHNICAL)

Staff Training Institute (Training) is the in-house training institute of All India Radio and Doordarshan primarily catering to the training needs of engineering personnel. Its main functions are: (i) conducting training courses for departmental candidates as well as for candidates of similar organisations outside the country, and (ii) conducting workshops at different field offices of AIR and Doordarshan for the staff from all over the country. The Institute has the responsibility to carry out the following activities: conducting departmental competitive examination; conducting direct recruitment examination; preparing and updating technical manuals; and publication of quarterly technical newsletter. The Institute conducted 95 courses during 2000-01 and trained around 1,510 engineering personnel.

12 Basic Economic Data

INDIA is rich in natural resources and manpower. These resources have, however, not been exploited fully and are capable of greater utilisation. The Indian economy is still predominantly agricultural. Agriculture has acquired a remarkable resilience in the last decade. About one-third of the national income is derived from agriculture and allied activities, employing about two-third of the working force. Since 1947, the national endeavour has been to diversify the economy.

The Ministry of Statistics and Programme Implementation is the apex body in the official statistical system of the country. The Ministry is the cadre controlling authority of the Indian Statistical Service (ISS). It is also the administrative Ministry for the Indian Statistical Institute, an autonomous registered scientific society of national importance. The Ministry consists of the Central Statistical Organisation (CSO), the National Sample Survey Organisation (NSSO), the Computer Centre and the Pay and Accounts Office.

CENTRAL STATISTICAL ORGANISATION

The Central Statistical Organisation (CSO) is responsible for formulation and maintenance of statistical standards, work pertaining to national accounts, industrial statistics, consumer price indices for urban non-manual employees, conduct of economic census and surveys, training in official statistics, coordination of statistical activities undertaken within the country and liaising with international agencies in statistical matters. The CSO is headed by a Director General, who is assisted by two Additional Director Generals, five Deputy Director Generals, 24 joint directors and supporting staff. The CSO is located in Delhi. A major portion of its work relating to industrial statistics is carried out in Kolkata.

NATIONAL AND PER CAPITA INCOMES

National income is defined as the sum of incomes accruing to factors of production, supplied by normal residents of the country before deduction of direct taxes. It is identically equal to net national product at factor cost. Table 12.1 gives estimates of national and per capita incomes at current and 1993-94 prices, while table 12.2 gives relationship of national income and other aggregates at current prices. Table 12.3 gives performance of the public sector and table 12.4 gives private final consumption expenditure, net domestic saving and capital formation since 1993-94.

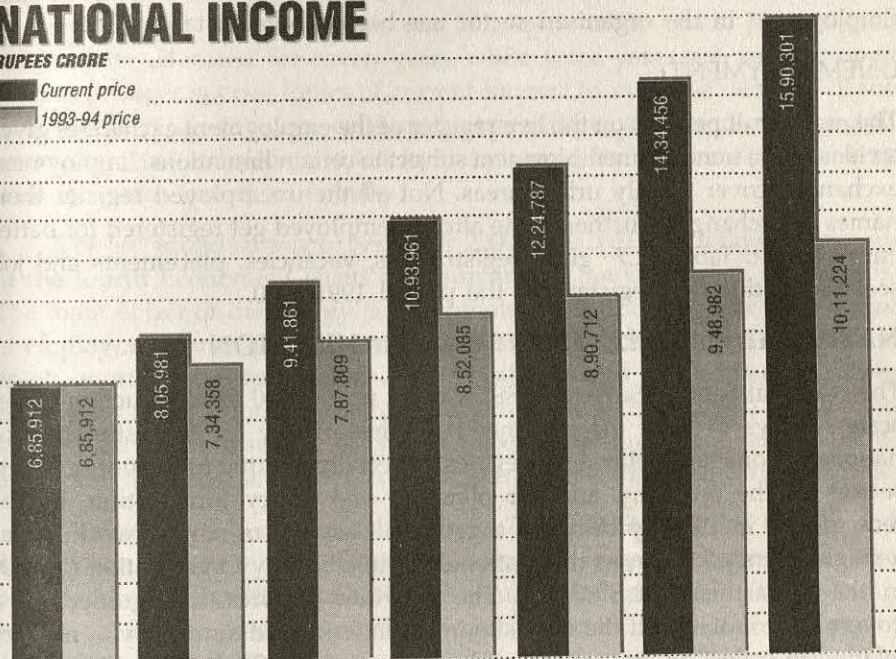
CATEGORIES OF WORKERS

For the 1991 census, the population was divided into main workers (classified into nine broad industrial categories), marginal workers and non-workers. Data released so far shows total workers sub-divided into main workers and

NATIONAL INCOME

RUPEES CRORE

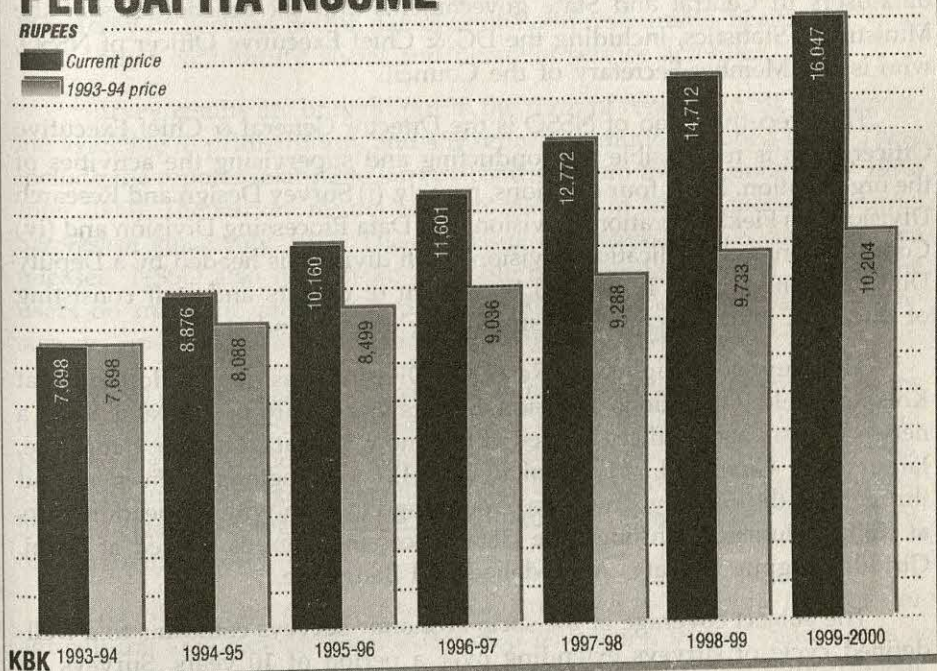
■ Current price
■ 1993-94 price



PER CAPITA INCOME

RUPEES

■ Current price
■ 1993-94 price



KBK

marginal workers and the distribution of main workers in nine categories in rural and urban areas as on 1 March 1991. These are presented in table 12.5. Employment in the organised sector has been shown in table 12.6.

UNEMPLOYMENT

The number of persons on the live register of the employment exchanges gives an idea of the trend of unemployment subject to certain limitations. Employment exchanges cover mainly urban areas. Not all the unemployed register their names in exchanges. Further, some already employed get registered for better employment. Table 12.7 gives registrations, vacancies, placements and job seekers on the 'live register' for the period 1991-2000.

NATIONAL SAMPLE SURVEY ORGANISATION

The National Sample Survey (NSS) was set up in 1950 for conducting large-scale surveys to meet the data needs of the country for the estimation of national income and related aggregates, especially relating to the unorganised sectors of the economy, and for planning and policy formulation. It was reorganised in 1970 by bringing together all aspects of survey work under a single agency, known as the National Sample Survey Organisation (NSSO) in the Department of Statistics. The activities of NSSO are guided by a governing council with the requisite independence and autonomy in matters relating to collection, processing and publication of NSS data. Besides a non-official Chairman, the governing council consists of five academicians, six data-users in Central and State governments and six functionaries of the Ministry of Statistics, including the DG & Chief Executive Officer of NSSO, who is the Member-Secretary of the Council.

The executive head of NSSO is the Director General & Chief Executive Officer, who is responsible for conducting and supervising the activities of the organisation. It has four divisions, namely, (i) Survey Design and Research Division; (ii) Field Operations Division; (iii) Data Processing Division and (iv) Coordination and Publication Division. Each division is headed by a Deputy Director General who is assisted by a team of officers and staff consisting of directors, joint directors and supporting officers and staff.

The Survey Design and Research Division has its headquarters at Kolkata; Field Operations Division has its headquarters at Delhi with a network of six zonal offices located at Lucknow, Kolkata, Nagpur, Bangalore, Jaipur and Guwahati, 45 regional and 121 sub-regional offices spread throughout the country. The Data Processing Division with its headquarters at Kolkata functions through the Data Processing Centres located at Delhi, Giridih, Nagpur, Kolkata, Ahmedabad and Bangalore.

The subject coverage of the socio-economic surveys conforms to a well-defined cycle of surveys extending over a period of 10 years. Surveys on consumer expenditure, employment and unemployment, manufacturing establishments and enterprises, trading establishments and enterprises in the

unorganised sectors are repeated once in five years, while subjects like land and livestock holdings, debt and investment, and social consumption are covered once in 10 years. Thus, out of a cycle of 10 years, pre-assigned subjects are allocated for seven years while three years are kept as open rounds to cover special topics of current interest to meet the demand of the data users. The data on consumer expenditure and employment and unemployment are also collected in every round from a thin sample along with the main survey of enquiry.

The 56th round survey of NSS (July 2000-June 2001) is a follow-up survey of the fourth Economic Census on unorganised manufacturing enterprises. The main object of the survey is to estimate the number of enterprises, size of employment-unemployment and some important characteristics like fixed assets, working capital, loan and gross value added of the manufacturing enterprises in the unorganised manufacturing sector. In addition to the main subject, data on household consumer expenditure and some employment-unemployment characteristics are also being collected from a thin sample.

The survey is being conducted in 14,788 First Stage Units (Urban and Rural taken together) in the Central sample. The State governments are also participating in the survey on at least equal matching basis. The previous survey on unorganised manufacture was conducted in the NSS 55th round (July 1994 - June 1995).

The 57th round survey of NSS (July 2001 - June 2002) is planned to be the survey on Services Sector, namely, hotel and restaurants, health and social work, other community, social and personal service activities.

Survey results are brought out in the form of reports. In all, 260 reports are available in printed form, and 459 reports in mimeographed form. These include the reports relating to survey conducted up to 55th round (July 1999-June 2000). The survey results are also released in NSSO quarterly journal *Sarvekshan* since July 1977. The 84th issue of *Sarvekshan* has already been released. NSSO also now make available household/unit-level data to the users on magnetic media (floppies, CD ROMs, etc.). Data relating to the surveys up-to the 54th round have already been released.

NSSO conducts annual surveys of industries under statutory provisions of the Collection of Statistics Act, 1953 (Central Rules, 1959), covering all factories registered under Sections 2m(i) and 2m(ii) of the Factories Act, 1948, electricity undertakings registered with the Central Electricity Authority, and *bidhi* and cigar units registered under the *Bidi* and Cigar Workers (Conditions of Employment) Act, 1966.

The NSSO also provides technical guidance to states in the field of agricultural statistics for conducting crop estimation surveys and keeps a continuous watch on the quality of crop statistics through the Improvement of Crop Statistics scheme. Up to March 2001 checking of Area Enumeration has been completed in 12,291 villages under different crops.

NSSO regularly collects rural retail prices on monthly basis from shops/outlets in selected markets located in sample villages in respect of selected essential items. The system of collection of rural retail prices of selected 129 essential items from 419 villages based on old series have been replaced by a new series of data in respect of 260 items from 603 villages with effect from January 1994 for compilation of Consumer Price Index number for Agricultural Labourers by the Labour Bureau. These index numbers are published in the monthly publication, *Indian Labour Journal* of the Labour Bureau.

NSSO conducts Urban Frame Survey (UFS) for providing sampling frame of first stage units in the urban sector. It is carried out in a cycle of five years, thereby providing for updating of the frame twice in a 10-year span. The fieldwork of the sixth phase (1997-2002) of the UFS commenced from July 1997 and is currently in progress; work in respect of 1,93,347 blocks has been updated in 1,394 towns and urban agglomerations. Considering the usefulness of the records of UFS, a programme of commercialisation was started in 1988 and an amount of Rs 9,59,000 has been realised till September 1999.

The National Sample Survey (NSS) completed 50 years of its existence in April 2000. The year-long celebrations of Golden Jubilee of NSSO were concluded by an International Seminar on "Understanding Socio-Economic Changes Through National Surveys" held on 12-13 May 2001 in New Delhi.

PRICES

The new series of index numbers of wholesale prices (base 1993-94=100) was introduced from 1 April 2000. These series have 435 distinct commodities as against 447 commodities in the old series (base 1981-82=100). The number of price quotations has also been revised from 2,371 in the earlier series to 1,918 in the new series.

Table 12.8 gives index numbers of wholesale prices (1993-94 =100) for the period 1994-95 to 1999-2000 for all commodities and for selected groups/sub-groups of three major groups, namely : (i) primary articles; (ii) fuel, power, light, lubricants; and (iii) manufactured products.

CONSUMER PRICES

Table 12.9 gives consumer price index numbers for industrial workers for the period 1990-91 to 2000-2001 and table 12.10 gives consumer price index numbers for urban non-manual employees for the period 1990-91 to 2000-2001 at the all India level and some selected centres.

ECONOMIC CENSUS AND SURVEYS

To bridge the data gaps in the unorganised sectors of non-agricultural economy, the Central Statistical Organisation (CSO) conducted the first Economic Census covering non-agricultural establishments in 1977. The Economic Census was aimed at providing basic information on distribution

TABLE 12.1 : NATIONAL AND PER CAPITA INCOME AT FACTOR COST

Item	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000
Net National Product at Factor Cost (Rs crore) at current prices	6,85,912	8,05,981	9,41,861	10,93,961	12,24,787	14,34,456	15,90,301
at 1993-94 prices	6,85,912	7,34,358	7,87,809	8,52,085	8,90,712	9,48,982	10,11,224
Per Capita Net National Product (Rs) at current prices	7,698	8,876	10,160	11,601	12,772	14,712	16,047
at 1993-94 prices	7,698	8,088	8,499	9,036	9,288	9,733	10,204
Index number of Net National Product with 1993-94 as base at current prices	100	118	137	159	179	209	232
at 1993-94 prices	100	107	115	124	130	138	147
Index Number of per capita Net National Product with 1993-94 as base at current prices	100	115	132	151	166	191	208
at 1993-94 prices	100	105	110	117	121	126	133
Gross National Product at Factor Cost (Rs crore) at current prices	7,69,265	9,03,975	10,59,787	12,30,464	13,76,837	16,01,065	17,71,028
at 1993-94 prices	7,69,265	8,24,816	8,86,961	9,59,360	10,05,617	10,71,073	11,40,389
Index number of Gross National Product with 1993-94 as base at current prices	100	118	138	160	179	208	230
at 1993-94 prices	100	107	115	125	131	139	148

TABLE 12.2 : RELATIONSHIP OF NATIONAL INCOME AND OTHER AGGREGATES
(at current prices)

Sl.No.	Item	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000
1.	National income (Net national product at factor cost)	6,85,912	8,05,981	9,41,861	10,93,961	12,24,787	14,34,456	15,90,301
2.	Indirect taxes	1,01,126	1,21,067	1,42,400	1,62,622	1,71,141	1,85,853	2,19,579
3.	Subsidies	23,251	25,355	27,659	37,960	38,742	43,610	49,041
4.	Net national product at market prices (1+2-3)	7,63,787	9,01,693	10,56,602	12,18,623	13,57,186	15,76,699	17,60,839
5.	Other current transfers from rest of the world	16,514	25,416	22,112	43,968	43,764	43,242	53,132
6.	Net national disposable income (4+5)	7,80,301	9,27,109	10,78,714	12,62,591	14,00,950	16,19,941	18,13,971
7.	Net factor income from abroad	-12,080	-13,083	-13,484	-13,082	-13,205	14,968	15,431
8.	Net domestic product at market prices (4+7 = 6+7-5)	7,75,867	9,14,776	10,70,086	12,31,705	13,70,391	15,91,667	17,76,270
9.	Net domestic product at factor cost (8-2+3)	6,97,992	8,19,064	9,55,345	11,07,043	12,37,992	14,49,424	16,05,732
10.	Income from entrepreneurship and property accruing to govt administrative departments ¹	11,037	1,286	12,482	15,590	14,279	17,069	21,671
11.	Saving of non-departmental enterprises	1,836	6,711	8,075	10,728	16,010	22,094	28,266
12.	Income accruing to private sector from domestic product (9-10-11)	6,85,119	8,11,067	9,34,788	10,80,725	12,07,703	14,10,261	15,55,795
13.	Interest on public debt	35,783	46,180	49,354	58,241	64,109	77,017	96,154
14.	Current transfers from government administrative departments	22,541	29,425	33,439	34,647	39,078	44,584	53,692
15.	Private income (12+13+14+5+7)	7,47,877	8,99,005	10,26,209	12,04,499	13,41,449	15,60,136	17,43,342
16.	Saving of private corporate sector net of retained earnings of foreign companies	12,838	14,638	32,491	28,711	25,640	21,224	23,189
17.	Corporation tax	10,060	13,822	16,487	18,567	20,016	24,529	29,915
18.	Personal income (15-16-17)	7,24,979	8,70,545	9,77,231	11,57,221	12,95,793	15,14,383	16,90,238
19.	Direct taxes paid by households	12,925	16,384	20,907	24,344	40,295	27,646	34,652
20.	Miscellaneous receipts of Government administrative departments ²	4,362	8,206	7,179	5,425	5,621	6,454	6,358
21.	Personal disposable income ² (18-19-20)	7,07,692	8,45,955	9,49,145	11,27,452	12,49,877	14,80,283	16,49,228

¹ Includes savings of railways and communication

² Separate data on fees, fines, etc., paid by producers are not available and to that extent personal disposable income is underestimated.

TABLE 12.3 : PERFORMANCE OF PUBLIC SECTOR
(at current prices)

Item	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000
(Rs crore)							
1. Gross Domestic Product	7,81,345	9,17,058	10,73,271	12,43,546	13,90,042	16,16,033	17,86,459
Public	2,02,512	2,34,395	2,70,129	2,97,443	3,52,518	4,05,185	4,59,858
Private	5,78,833	6,82,663	8,03,142	9,46,103	10,37,524	12,10,848	13,26,601
2. Gross Domestic Saving	1,93,621	2,51,463	2,98,195	3,16,923	3,58,250	3,86,732	4,35,572
Public	5,445	16,845	24,065	22,917	23,381	-14,345	-23,220
Private	1,88,176	2,34,618	2,74,130	2,94,006	3,34,869	4,01,077	4,58,792
3. Gross Domestic Capital Formation Unadjusted	1,82,619	2,36,784	3,15,179	3,02,781	3,49,142	3,72,018	4,44,423
Public	70,834	88,206	90,977	96,187	1,00,653	1,12,069	1,38,186
Private	1,11,785	1,48,578	2,24,202	2,06,594	2,48,489	2,59,949	3,06,237
4. Final Consumption expenditure	6,72,497	7,72,790	8,94,527	10,49,286	11,46,984	13,52,977	15,16,948
Public	97,725	1,08,633	1,28,730	1,45,633	1,72,189	2,11,770	2,51,516
Private	5,74,772	6,64,157	7,65,797	9,03,653	9,74,795	11,41,207	12,65,432
PERCENTAGE SHARE OF PUBLIC SECTOR							
1. Gross Domestic Product	25.9	25.6	25.2	23.9	25.4	25.1	25.7
2. Gross Domestic Saving	2.8	6.7	8.1	7.2	6.5	-3.7	-5.3
3. Gross Domestic Capital	38.8	37.3	28.9	31.8	28.8	30.1	31.1
4. Final Consumption Expenditure	14.5	14.1	14.4	13.9	15.0	15.7	16.6

TABLE 12.4 : PRIVATE CONSUMPTION, SAVING AND CAPITAL FORMATION

Year	Private final consumption Expenditure in domestic market (Rs crore)		Per capita private final consumption expenditure domestic market (Rs)		Net domestic saving (Rs crore)		Rate of net saving (per cent)		Net domestic capital formation (Rs crore)		Rate of capital formation (per cent)	
	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices
1993-94	5,74,772	5,74,772	6,451	6,451	1,10,268	1,15,059	14.2	1,15,059	1,15,059	14.8	14.8	14.8
1994-95	6,64,157	6,01,481	7,315	6,624	1,53,469	1,65,362	16.8	1,65,362	1,53,424	18.1	18.4	18.4
1995-96	7,65,797	6,38,938	8,261	6,893	1,80,269	2,01,049	16.8	2,01,049	1,71,394	18.8	19.1	19.1
1996-97	9,03,653	6,89,566	9,583	7,312	1,80,420	1,98,158	14.6	1,98,158	1,61,051	16.1	16.8	16.8
1997-98	9,74,795	7,01,114	10,165	7,311	2,06,200	2,28,502	15.0	2,28,502	1,78,926	16.7	17.9	17.9
1998-99	11,41,207	7,51,439	11,705	7,707	2,20,123	2,38,210	13.8	2,38,210	1,78,624	15.0	16.9	16.9
1999-2000	12,65,432	7,82,064	12,769	7,892	2,54,845	2,74,501	14.3	2,74,501	1,99,950	15.5	17.6	17.6

TABLE 12.5 : POPULATION BY CATEGORY OF WORKERS

	(In crore)		
	Rural	Urban	Total
1991 Census			
Total Population	62.28	21.58	83.86
Total Workers ¹	24.90	6.51	31.41
Marginal Workers	2.67	0.15	2.82
Main Workers	22.23	6.36	28.59
(i) Cultivators	10.76	0.31	11.07
(ii) Agricultural labourers	7.03	0.43	7.46
(iii) Livestock, forestry, etc.	0.49	0.11	0.60
(iv) Mining and quarrying	0.10	0.07	0.18
(v) Manufacturing, processing, servicing and repairs :			
(a) In household industry	0.48	0.20	0.68
(b) Other than household industry	0.79	1.40	2.19
(vi) Constructions	0.23	0.32	0.55
(vii) Trade and commerce	0.73	1.40	2.13
(viii) Transport, storage and communications	0.27	0.53	0.80
(ix) Other services	1.33	1.60	2.93

¹ The figures exclude Jammu and Kashmir where census has not been conducted.

of non-agricultural enterprises and to provide a frame for follow-up surveys for collection of detailed information about the structure of enterprises, investment, loans, input, output, employment, etc. The first Economic Census was followed by two sample surveys—one in 1978-79 relating to unorganised manufacturing and the other in 1979-80 devoted to trade, transport, hotels and restaurants, storage and warehousing and services.

The frame of the second Economic Census conducted in 1980 in the whole country except Assam, was updated during 1987-88 in 64 towns. On the basis of the Economic Census 1980 and updated frame, four follow-up sample surveys were conducted. First in 1988-89 on hotels, restaurants and transport, second in 1989-90 on unorganised manufacturing, third in 1990-91 on trade sector and fourth in 1991-92 on service sector.

The third Economic Census in 1990 was conducted along with the house-listing operations of 1991 Population Census in all States/Union Territories except Jammu and Kashmir. On the basis of the frame thrown up by the Economic Census 1990, three follow-up surveys have been conducted so far, covering sectors of mining and quarrying, and storage and warehousing

TABLE 12.6 : EMPLOYMENT IN ORGANISED SECTOR

	March 1991	March 1992	March 1993	March 1994	March 1995	March 1996	March 1997	March 1998	March 1999
Public Sector									(in lakh)
Central Government	34.10	34.28	33.83	33.92	33.95	33.66	32.95	32.53	33.13
State Government	71.13	71.90	72.93	73.37	73.55	74.14	74.85	74.58	74.58
Quasi Government	62.22	63.93	64.90	65.14	65.20	64.58	65.35	64.61	63.85
Local Bodies	23.13	21.98	21.60	22.02	21.97	21.92	22.44	22.46	22.59
Private Sector									
(non-agriculture)									
Large establishments (employing 25 or more workers)	67.83	69.56	69.46	69.98	71.18	75.50	77.06	78.21	77.70
Smaller establishments (employing 10 to 24 workers)	8.92	8.90	9.04	9.32	9.40	9.61	9.79	9.27	9.28

during 1992--93, hotels, restaurants and transport during 1994-95 and directory trade establishments during 1996-97.

As per the results of the Economic Census 1990 (including Jammu & Kashmir) there were 25 million enterprises out of which 22.7 million were in the non-agricultural sector. The total number of persons usually working were 72.1 million. Of these 40.2 million were hired workers. A total of 17.7 million enterprises operated without any hired labour on a regular basis and were mainly run by the household members themselves.

The fourth Economic Census was conducted during 1998 in all States/UTs. It has been de-linked from the Population Census with a view to building up a time series with shorter interval. The data entry and tabulation work of all States/UTs have been completed. The final report has been released by 20 States/UTs. Tabulation work for all India and All India report has also been completed. The report is available on the website of the Ministry (www.nic.in/stat).

As per All India results, there were 30.35 million enterprises out of which 26.87 million relate to the non-agricultural sector. Total number of persons usually working was 83.30 million, of which 43.29 million were hired workers. A total of 21.38 million enterprises operated without any hired workers on a regular basis.

TABLE 12.7 : REGISTRATIONS, VACANCIES NOTIFIED, PLACEMENTS
AND NUMBER OF JOB-SEEKERS
(LIVE REGISTER) 1991-2000 (JANUARY-DECEMBER)

Year	Number of Employment Exchanges ¹	Registrations	Vacancies notified	Placements	Live Register at the end of year	Percentage increase in Live Register over previous year
(IN THOUSANDS)						
1991	854	6,235.9	458.6	253.0	36,299.7	4.8
1992	860	5,300.6	419.6	238.7	36,758.4	1.3
1993	887	5,532.2	384.7	231.4	36,275.5	(-)1.3
1994	891	5,927.3	396.4	204.9	36,691.5	1.1
1995	895	5,858.1	385.7	214.9	36,742.3	0.1
1996	914	5,872.4	423.9	233.0	37,429.6	1.9
1997	934	6,322.0	393.0	275.0	39,139.9	4.6
1998	945	5,852.0	358.8	233.3	40,089.6	2.4
1999	955	5,966.0	328.9	221.3	40,371.4	0.7
2000	958	6,041.9	284.5	177.7	41,343.6	2.4

¹ Including University Employment Information and Guidance Bureaux.

TABLE 12.8 : INDEX NUMBERS OF WHOLESALE PRICES
(Base 1993-94 = 100)

Major Group / Groups & Sub-Groups		Revised Series						
		Weight	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000
I.	All Commodities	100.000	112.6	121.6	127.2	132.8	140.7	145.3
(a)	Primary Articles	22.025	115.8	125.3	135.8	139.4	156.2	158.0
(b)	Food Articles	15.402	112.8	122.2	137.3	141.4	159.4	165.5
(c)	Non-Food Articles	6.138	124.2	135.4	134.2	137.5	151.8	143.0
	Minerals	0.485	104.9	94.7	107.2	99.8	110.9	110.4
II.	Fuel Power Light & Lubricants	14.226	108.9	114.5	126.4	143.8	148.5	162.0
III.	Manufactured Products	63.749	112.3	121.9	124.4	128.0	133.6	137.2
(a)	Food Products	11.538	114.1	117.8	124.9	134.6	149.7	151.3
(b)	Beverages, Tobacco & Tobacco Products	1.339	118.3	128.1	134.9	150.5	166.7	174.1
(c)	Textiles	9.800	118.2	129.4	118.7	115.5	114.4	115.0
(d)	Wood & Wood Products	0.173	110.9	118.9	122.1	153.0	198.9	193.9
(e)	Paper & Paper Products	2.044	106.1	131.2	131.0	126.7	130.8	149.3
(f)	Leather & Leather Products	1.019	109.7	119.2	121.2	128.8	133.2	154.6
(g)	Rubber & Plastic Products	2.388	106.4	123.0	124.2	124.5	123.7	123.6
(h)	Chemicals & Chemical Products	11.931	116.6	126.8	131.1	137.1	145.8	155.2
(i)	Non-Metallic Mineral Products	2.516	110.9	126.4	129.4	127.0	130.2	127.4
(j)	Basic Metals, Alloys & Metal Products	8.342	108.4	120.3	125.9	130.7	132.8	135.0
(k)	Machinery & Machine Tools	8.363	106.0	111.8	115.7	115.3	116.0	116.1
(l)	Transport Equipment & Parts	4.295	107.4	115.9	123.1	127.8	131.4	135.4

TABLE 12.9 : CONSUMER PRICE INDEX NUMBER FOR INDUSTRIAL WORKERS

Year	Mumbai	Ahmedabad	Kolkata	Chennai	Kanpur	Delhi	All India All Items Food	
Linking Factor	5.12	4.78	4.74	5.05	4.69	4.97	4.93	4.98
1990-91	201	196	203	189	202	201	193	199
1991-92	234	225	223	216	228	225	219	230
1992-93	260	242	241	243	245	253	240	254
1993-94	279	257	264	264	262	278	258	272
1994-95	314	285	286	297	283	306	284	304
1995-96	346	309	319	336	313	331	313	337
1996-97	372	343	347	367	337	356	342	369
1997-98	412	363	369	390	360	392	366	388
1998-99	461	409	427	432	420	461	414	445
1999-2000	474	428	439	452	430	486	428	446
2000-2001	512	444	456	478	430	518	444	453

TABLE 12.10 : CONSUMER PRICE INDEX NUMBER FOR URBAN NON-MANUAL EMPLOYEES
(Base 1960-100)

Year	Mumbai	Kolkata	Chennai	Delhi/New Delhi	All-India
1990-91 ¹	154	164	168	156	161
1991-92 ¹	180	181	189	177	183
1992-93 ¹	204	198	212	196	202
1993-94 ¹	219	212	232	211	216
1994-95 ¹	239	229	259	229	237
1995-96 ¹	260	251	284	247	259
1996-97 ¹	285	268	311	267	283
1997-98 ¹	309	286	334	288	302
1998-99 ¹	339	316	368	338	337
1999-2000	353	328	386	359	352
2000-2001	375	344	420	381	371

¹ A New Series of Index Numbers on Base 1984-85 = 100 was introduced from November 1987. All India Index on New Base may be converted to Old Base by multiplying the conversion factor 5.32. Conversion factors in respect of Mumbai, Kolkata, Chennai, Delhi/New Delhi are 5.38, 4.51, 5.77 and 5.08 respectively.

13 Finance

THE Ministry of Finance is responsible for administration of finances of the Government. It is concerned with all economic and financial matters affecting the country as a whole including mobilisation of resources for development and other purposes. It regulates expenditure of the Government including transfer of resources to the states. This Ministry comprises three departments, namely, (i) Economic Affairs, (ii) Expenditure and (iii) Revenue.

ECONOMIC AFFAIRS

The Department of Economic Affairs consists of eight main divisions, namely, (i) Economic; (ii) Banking; (iii) Insurance; (iv) Budget; (v) Investment; (vi) External Finance; (vii) Fund Bank and (viii) Currency and Coinage. The Department *inter alia* monitors current economic trends and advises the Government on all matters of internal and external economic management including working of commercial banks, term-lending institutions, investment regulations, external assistance, etc. Preparation of the Budget of the Union of India as well as the state governments and union territory administrations with legislature when under the President's rule and their presentation to the Parliament is also the responsibility of this Department.

PUBLIC FINANCE

Power to raise and disburse public funds has been divided under the Constitution between the Union and the state governments. Sources of revenue for Union and states are, by and large, mutually exclusive, if shareable taxes and duties between them are excluded. The Constitution provides that: (i) no tax can be levied or collected except by an authority of law; (ii) no expenditure can be incurred from public funds except in the manner provided in the Constitution; and (iii) executive authorities must spend public money only in the manner sanctioned by the Parliament in case of the Union and by the state legislature in the case of a state.

All receipts and disbursements of the Union are kept under two separate headings, namely, the Consolidated Fund of India and Public Account of India. All revenues received, loans raised and money received in repayment of loans by the Union form the Consolidated Fund. No money can be withdrawn from this Fund except under the authority of an Act of Parliament. All other receipts, such as deposits, service funds and remittances go into Public Account and disbursements therefrom are not subject to the vote of Parliament. To meet unforeseen needs not provided in the Annual Appropriation Act, a Contingency Fund of India has been established under

Article 267(1) of the Constitution. The Indian Constitution provides for the establishment of a Consolidated Fund, a Public Account and a Contingency Fund for each state.

The Railways, the largest public undertaking, present their budget separately to the Parliament. Appropriations and disbursements under the Railway budget are subject to the same form of parliamentary control as other appropriations and disbursements. However, as the Railways have no separate cash balance of their own, total receipts and disbursements of the Railways are incorporated in the budget of the Union as part of the Central Budget.

SOURCES OF REVENUE

The main sources of the Union tax revenue are customs duties, Union excise duties, corporate and income taxes. Non-tax revenues largely comprise interest receipts, including interest paid by the Railways, dividend and profits. The main heads of revenue in states are taxes and duties levied by the respective state governments, share of taxes levied by the Union and grants received from the Union. Property taxes, octroi and terminal taxes are the mainstay of local finance.

TRANSFER OF RESOURCES

Devolution of resources from the Union to the states is a salient feature of the system of federal finance of India. Apart from their share of taxes and duties, state governments receive statutory and other grants as well as loans for various development and non-development purposes. The total amount of resources directly transferred to the states during each Plan period is shown in table 13.1. In addition, resources are also transferred by Central Government to the implementing agencies under various schemes without routing it through State budgets.

TABLE 13.1 : RESOURCES TRANSFERRED TO STATES

(Rs in crore)				
Period	Taxes and Duties	Grants	Loans (Gross)	Total
First Plan	344	288	799	1,431
Second Plan	688	789	1,411	2,888
Third Plan	1,196	1,304	3,100	5,600
Annual Plans				
1966-67	373	419	916	1,708
1967-68	417	471	869	1,757
1968-69	492	499	891	1,882
Fourth Plan	4,562	3,831	6,708	15,101
Fifth Plan	8,268	8,198	8,978	25,444
Annual Plan				
1979-80	3,406	2,288	2,697	8,391

Sixth Plan	23,728	17,941	23,722	65,391
Seventh Plan	49,465	42,005	48,945	1,40,415
1990-91	14,534	13,202	14,476	42,212
1991-92	17,197	15,700	13,145	46,042
1992-93	20,522	17,830	13,282	51,634
1993-94	22,242	20,830	15,075	58,147
1994-95	24,840	20,047	18,234	63,121
1995-96	29,285	21,287	18,763	69,335
1996-97	35,061	23,157	23,106	81,324
1997-98	43,548	29,738	29,500	1,02,786
1998-99	39,145	25,096	39,172	1,03,953
1999-2000	43,481	29,011	21,116	93,608
2000-2001 (RE)	52,418	38,875	21,498	1,12,791
2001-2002 (BE)	61,618	43,390	21,340	1,26,348

With effect from 1 April 1999, a new system of transferring 75 per cent of the net small savings collections to States and UTs from the Public Account has been introduced.

ANNUAL BUDGET

An estimate of all anticipated receipts and expenditure of the Union for the ensuing financial year is laid before the Parliament. This is known as 'Annual Financial Statement' or 'Budget' and covers Central Government's transactions of all kinds, in and outside India, occurring during the preceding year, the year in which the statement is prepared as well as the ensuing year or the 'Budget Year' as it is known.

The presentation of Budget is followed by a general discussion on it in both the Houses of Parliament. Estimates of expenditure from the Consolidated Fund of India are placed before the Lok Sabha in the form of 'Demands of Grants'. All withdrawals of money from the Consolidated Fund are thereafter authorised by an Appropriation Act passed by the Parliament every year. Tax proposals of Budget are embodied in a Bill which is passed as the 'Finance Act' of the year. Estimates of receipts and expenditure are similarly presented by the state governments in their legislatures before the beginning of the financial year and legislative sanction for expenditure is secured through similar procedure. Budgetary position of the Union from 1992-93 onwards is shown in table 13.2.

PUBLIC DEBT

Public debt includes internal debt comprising borrowings inside the country like market loans, compensations and other bonds, treasury bills issued to the Reserve Bank of India, state governments, commercial banks and other parties as well as non-negotiable non-interest bearing rupees securities issued

TABLE 13.2 : BUDGETARY POSITION

	(Rs in crore)										
	1992-93 (Actuals)	1993-94 (Actuals)	1994-95 (Actuals)	1995-96 (Actuals)	1996-97 (Actuals)	1997-98 (Actuals)	1998-99 (Actuals)	1999-2000 (Actuals)	2000-2001 (RE)	2000-2001 (BE)	
1. Revenue Receipts	74,128	75,453	91,083	1,10,131	1,26,279	1,33,901	1,49,510	1,81,513	2,06,166	2,31,745	
2. Revenue Expenditure	92,702	1,08,169	1,22,112	1,39,861	1,58,933	1,80,335	2,16,461	2,49,109	2,83,536	3,10,567	
3. Revenue Deficit	18,574	32,716	31,029	29,730	32,654	46,434	66,951	67,596	77,370	78,822	
4. Capital Receipts	36,178	55,440	68,695	58,338	61,544	98,167	1,29,856	1,16,571	1,29,356	1,43,478	
5. Recoveries of Loans and other Receipts	8,317	6,143	11,952	7,902	7,995	9,230	16,507	11,854	17,385	27,164	
6. Borrowings and other Liabilities	27,861	49,297	56,743	50,436	53,549	88,937	1,13,349	1,04,717	1,11,972	1,16,314	
7. Capital Expenditure	29,916	33,684	38,627	38,414	42,074	51,718	62,879	48,975	51,987	64,656	
8. Total Receipts	1,10,306	1,30,893	1,59,778	1,68,469	1,87,823	2,32,068	2,79,366	2,98,024	3,35,523	3,75,223	
9. Total Expenditure	1,22,618	1,41,853	1,60,739	1,78,275	2,01,007	2,32,053	2,79,340	2,98,084	3,35,523	3,75,223	
10. Budgetary Deficit ¹ (9-8)	12,312	10,960	961	9,807	13,184	—	—	—	—	—	
11. Fiscal Deficit ² [(1+5)-6+10]	40,173	60,257	57,704	60,243	66,733	88,922	1,13,323	1,04,717	1,11,972	1,16,314	

¹ Represents borrowing through issue of 91 days Treasury Bills and draw down of cash balance² Represents borrowing requirements of Government from all sources

TABLE 13.3 : PUBLIC DEBT AND OTHER LIABILITIES OF GOVERNMENT OF INDIA
AS AT THE END OF MARCH

AS AT THE END OF MARCH												(Rs in crore)
Item	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01 (RE)	2001-02 (BE)
A. Public Debt												
1. Internal Debt (i to vii)	1,54,004	1,72,750	1,99,100	2,45,712	2,66,467	3,07,868	3,44,475	3,88,998	4,59,696	7,14,254	8,04,528	8,92,935
(i) Market Loans	70,520	78,023	81,693	1,10,611	1,30,908	1,63,986	1,84,101	2,16,598	2,85,585	3,55,862	4,31,809	5,04,662
(ii) Others ¹ (include spl Bearer Bonds)	2,863	5,425	10,078	10,095	10,821	5,275	12,247	50,835	48,224	46,362	51,359	57,936
(iii) 91 days Treasury Bills	6,953	8,840	20,614	32,595	32,327	43,790	56,519	1,601	1,501	1,521	1,521	1,521
(iv) Special Securities issued to the RBI in conversion of Treasury Bills	66,000	71,000	71,000	71,000	71,000	71,000	71,000	1,01,818	1,01,818	1,02,054	1,02,054	1,02,054
(v) Special floating and other loans ²	6,566	8,415	14,669	20,365	20,365	22,771	19,562	17,100	21,522	22,209	22,790	22,767
(vi) Other Special securities issued to RBI	1,102	1,047	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,845	1,845
(vii) Securities against small savings	—	—	—	—	—	—	—	—	—	1,85,200	1,93,150	2,02,150
2. External Debt ³	31,525	36,948	42,269	47,345	50,928	51,249	54,239	55,332	57,254	58,437	58,428	59,594
Total Public Debt (1+2)	1,85,529	2,09,698	2,41,369	2,93,057	3,17,395	3,59,117	3,98,714	4,44,330	5,16,950	7,72,691	8,62,956	9,52,529
3. Other Liabilities ⁴	1,29,029	1,44,964	1,60,554	1,84,911	2,21,215	2,47,115	2,76,962	3,33,964	3,74,856	2,48,338	3,00,679	3,63,421
Total Public Debt and Other Liabilities	3,14,558	3,54,662	4,01,923	4,77,968	5,38,610	6,06,232	6,75,676	7,78,294	8,91,806	10,21,029	11,63,635	13,15,950

¹ Comprises balance of expired loans, 14 days/182 days and 364 days Treasury Bills, Ways and Means Advances, compensation and other bonds such as National Rural Development Bonds and Capital Investment Bonds. Annuity certificates are excluded

² These represent mainly non-negotiable non-interest bearing securities issued to International Financial Institutions like International Monetary Fund, International Bank for Reconstruction and Development and Asian Development Bank

³ At book value.

⁴ Comprises accruals under Small Savings Schemes, Provident Funds, Special Deposits of Non-Government Provident Funds and Other Reserve Funds and Deposits

RE : Revised Estimates

BE : Budget Estimates

to the international financial institutions; and external debt comprising loans from foreign countries, international financial institutions, etc. Table 13.3 gives an analysis of public debt and "other liabilities" at the end of selected years. The "other liabilities" include outstandings against the various small saving schemes, provident funds, securities issued to Industrial Development Bank of India, Unit Trust of India and nationalised banks, deposits under the special deposit schemes, reserve funds and deposits.

EXTERNAL ASSISTANCE

The Department of Economic Affairs (DEA) is the nodal department for procuring and co-ordinating foreign assistance from multilateral/bilateral agencies. The Ministries/Departments, State governments and other agencies that wish to avail of external assistance can forward their proposals to Department of Economic Affairs through the Central Administrative Ministry. The Ministry/Department may ensure that all proposals/schemes for foreign assistance are sent to the DEA ensuring plan priorities, budgetary clearance, administrative clearance, including clearances from Planning Commission at an appropriate stage.

External assistance has played a significant role in the development process in India. Though the share of foreign assistance has been less than 10 per cent of the total investment in the public sector, its significance lies in the fact that some of the important projects in various sectors have been funded by external assistance. With liberalisation, the role of external assistance has gained further significance in view of the large gap in funding requirements for social and infrastructure sectors in order to acquire competitive strength under the globalised economic framework. A significant part of external assistance also needs to be channelled towards programmes for development of weaker sections.

For the project proposals of Central Ministries/State governments, all agreements with the multilateral/bilateral agencies are signed by the Central Government. The Department of Economic Affairs is also responsible for all policy issues pertaining to external aid received by Government of India. It has a role in terms of prescribing limits, if any, for external borrowing sector-wise or lender-wise, developing a pipeline of projects, negotiating external assistance and monitoring implementation.

The external assistance received from various multilateral and bilateral agencies is passed on to the States as Additional Central Assistance (ACA) on terms and conditions as applicable to Central assistance for State plans. These are different from the conditions at which external assistance is received from various multilateral/bilateral agencies. For States not falling under the special category status, assistance is given in 30:70 mix of grants and loans.

During 2000-01 the total aid utilisation (provisional) on Government and Non-Government account was Rs 14,238.67 crore against the corresponding figure of Rs 14,296.96 crore during 1999-2000. As regards the ACA to the

States, Rs 8,093.22 crore was released during 2000-01, against the corresponding figure of Rs 6,341.04 crore during 1999-2000. In the current year (2001-02) total ACA released for EAPs was Rs 3,215.47 crore as on 20 June 2001.

BANKING

Although some form of Banking, mainly of the money-lending type has been in existence in India since ancient times, it was only over a century ago that proper banking began. The earliest institutions which undertook banking business under the British regime were agency houses which carried on banking business, in addition to their trading activities. Most of these agency houses were closed down between 1929-32. Following serious financial troubles, three presidency banks were later amalgamated into Imperial Bank of India in 1919.

The first bank of limited liability managed by Indians was Oudh Commercial Bank founded in 1881. Subsequently, the Punjab National Bank was established in 1894. *Swadeshi* movement, which began in 1906, encouraged the formation of a number of commercial banks. Banking crisis during 1913-17 and failure of 588 banks in various states during the decade ending in 1949 underlined the need for regulating and controlling commercial banks. The Banking Companies (Inspection Ordinance) was issued in January 1946 and the Banking Companies (Restriction of Branches) Act passed in February 1946. The Banking Companies Act was passed in February 1949 which was subsequently amended to read Banking Regulation Act.

With a view to bringing commercial banks into the mainstream of economic development with definite social obligations and objectives, the Government issued an ordinance on 19 July 1969 acquiring ownership and control of 14 major banks in the country with deposits exceeding Rs 50 crore each. Six more commercial banks were nationalised from 15 April 1980. The objectives of public sector banking system were outlined on 21 July 1969.

The three decades after nationalisation had seen a phenomenal expansion in the geographical coverage and financial spread of the banking system in the country. As certain rigidities and weaknesses were found to have developed in the system during the late eighties, the Government of India felt that these had to be addressed to enable the financial system to play its role in ushering in a more efficient and competitive economy. Accordingly, a high-level Committee on the Financial System (CFS) was set up on 14 August 1991 to examine all aspects relating to the structure, organisation, functions and procedures of the financial system. Based on the recommendations of the Committee (Chairman: Shri M. Narasimham), a comprehensive reform of the banking system was introduced in 1992-93. The reform process aimed at improving the productivity, efficiency and profitability of the banking system on one hand and providing it greater operational flexibility and functional autonomy on the other. Prudential norms relating to income recognition, asset classification and provisioning by banks, on the basis of objective criteria, were laid down by the Reserve Bank. The introduction of capital adequacy norms in line with international standards has been another important measure of the reform process.

In 1993, in recognition of the need to introduce greater competition, which can lead to higher productivity and efficiency of the banking system, new private sector banks were allowed to be set up in the Indian banking system. These new banks had to satisfy among others, the following minimum requirements: (i) it should be registered as a public limited company; (ii) the minimum paid-up capital should be Rs 100 crore; (iii) the shares should be listed on the stock exchange; (iv) the headquarters of the bank should be listed on the stock exchange; (v) the headquarters of the bank should be preferably located in a center which does not have the headquarters of any other bank; and (vi) the bank will be subject to prudential norms in respect of banking operations, accounting and other policies as laid down by the RBI. It will have to achieve capital adequacy of eight per cent from the very beginning. Revised guidelines for entry of new banks in private sector were issued in January 2001 the salient features of which are : (a) The initial minimum paid-up capital for a new bank shall be Rs 200 crore. The initial capital will be raised to Rs 300 crore within three years of commencement of business; (b) The promoters' contribution shall be a minimum of 40 per cent of the paid-up capital of the bank at any point of time; (c) NRI participation in the primary equity of a new bank shall be to maximum extent of 40 per cent; and (d) The new bank should not be promoted by a large industrial house.

The proposed bank shall maintain an arms-length relationship with business entries in the promoter group and the individual companies investing up to 10 per cent of the equity as stipulated above. The new banks will also be required to maintain a capital adequacy to the tune of 10 per cent and channel 40 per cent of their net bank credit to the priority sector. Guidelines were also issued for the conversion of NBFCs to scheduled banks.

A high-level Committee, under the Chairmanship of Shri M. Narasimham, was constituted by the Government of India in December 1997 to review the record of implementation of financial system reforms recommended by the CFS in 1991 and chart the reforms necessary in the years ahead to make the banking system stronger and better equipped to compete effectively in international economic environment. The Committee submitted its report to the Government in April 1998. Some of the recommendations of the Committee, on prudential accounting norms, particularly in the areas of Capital Adequacy Ratio, Classification of Government guaranteed advances, provisioning requirements on standard advances and more disclosures in the Balance Sheets of banks have been accepted and implemented. The other recommendations are under consideration.

RESERVE BANK OF INDIA

The Reserve Bank of India (RBI) was established under the Reserve Bank of India Act, 1934 on 1 April 1935 and nationalised on 1 January 1949. The Bank is the sole authority for issue of currency in India other than one rupee coins and subsidiary coins and notes. As the agent of the Central Government, the Reserve Bank undertakes distribution of one-rupee coins, as well as small coins issued by the Government. The Bank acts as banker to the Central Government, State governments by virtue of agreements entered into with

them, commercial banks, state co-operative banks, and some of the financial institutions. It formulates and administers monetary policy with a view to ensuring stability in prices while promoting higher production in the real sector through proper deployment of credit. RBI plays an important role in maintaining orderly conditions in foreign exchange market and acts as an agent of the Government in respect of India's membership of International Monetary Fund. The Reserve Bank also performs a variety of developmental and promotional functions. These apart, the Reserve Bank also handles the borrowing programme of the Government of India.

COMPOSITION OF BANKING SYSTEM

Commercial Banking System in India consisted of 297 scheduled banks (including foreign banks) as on the last Friday of December 2000. Over the period March 1999 to March 2000, the number of scheduled banks decreased by four. Of the scheduled commercial banks, 223 are in public sector and these account for about 82 per cent of the deposits of all scheduled commercial banks. There are 196 regional rural banks specially set up to increase the flow of credit to small borrowers in the rural areas. These banks have specified areas of operations usually limited to two to three districts. They also undertake some other commercial banking business. The remaining 27 banks in the public sector are regular commercial banks and transact all types of commercial banking business. Some important indicators in regard to progress of commercial banking in India since 1996 is given in table 13.4.

Amongst the public sector banks, as on December 2000, the State Bank of India (SBI) group (SBI and its seven associates) is the biggest unit with 13,492 offices and deposits aggregating Rs 2,20,211 crore and advances of Rs 1,52,132 crore. In the associate banks, SBI owns either the entire or the majority of share capital. The SBI and its associate banks as a group accounts for around 34.3 per cent of aggregate banking business (aggregate of deposits and advances) conducted by the public sector banks and around 26.6 per cent of the aggregate business of the entire banking system. The remaining 19 banks in the public sector are those nationalised in 1969 and 1980.

DEPOSIT MOBILISATION AND DEPLOYMENT

There has been a substantial increase in the deposits of scheduled commercial banks in the post-nationalisation period. At the end of June 1969, deposits of these banks aggregated to only Rs 4,646 crore. In December 2000, this had increased to Rs 8,82,373 crore. Deposits with public sector banks were Rs 3,871 crore in June 1969. At the end of December 2000, these stood at Rs 6,89,653 crore. Deposits mobilized by the banks are utilised for: (i) loans and advances; (ii) investments in government and other approved securities in fulfilment of the liquidity stipulations; and (iii) investment in commercial paper, shares, debentures, etc., up to a stipulated ceiling.

There has been a significant increase in the investments of banks in government and other approved securities from Rs 1,361 crore in June 1969 to Rs 3,13,421 crore at the end of March 2000. The Gross Bank Credit of scheduled commercial banks has grown from Rs 3,599 crore in June 1969 to

Rs 5,15,868 crore at the end of December 2000. The share of priority sector advances has shown significant improvement over the years.

ADVANCES TO PRIORITY SECTOR

Extension of credit to small borrowers in the hitherto neglected sectors of the economy has been one of the key tasks assigned to the public sector banks in the post-nationalisation period. To achieve this objective, banks have drawn up schemes to extend credit to small borrowers in sectors such as agriculture, small scale industry, road and water transport, retail trade and small business which traditionally had very little share in the credit extended by banks. Taking into account the need to provide financial resources through bank credit to weaker sections for specific needs, consumption credit (with certain limits) has been included in priority sector. Similarly, housing loans up to Rs five lakh per unit in rural/semi-urban areas and Rs 10 lakh per unit in urban/metropolitan areas are also classified as priority sector advances. Amount outstanding under priority sector lending by public sector banks during the period June 1969 to September 2000 increased from Rs 441 crore to Rs 1,34,107 crore and accounted for 43.41 per cent of their net bank credit as on September 2000.

CREDIT TO WEAKER SECTIONS

With a view to augmenting credit flow to small and poor borrowers, commercial banks were advised by the Reserve Bank of India to provide at least 10 per cent of their net bank credit or 25 per cent of their priority-sector advances to weaker sections comprising small and marginal farmers, landless labourers, tenant farmers and share-croppers, artisans, village and cottage industries where individual credit limits do not exceed Rs 25,000, beneficiaries of Government sponsored schemes such as the Scheme of Urban Micro-Enterprises (SUME), the *Swarnjayanti Gram Swarojgar Yojana* (SGSY) [earlier Integrated Rural Development Programme (IRDP)] and the Scheme of Liberation and Rehabilitation of Scavengers (SLRS), beneficiaries of the Differential Rate of Interest (DRI) scheme and scheduled castes and scheduled tribes. As on September 2000, the amount of outstanding advances extended by public sector banks to the weaker sections under the priority sector amounted to Rs 22,096 crore and accounted for 7.15 per cent of their net bank credit.

CREDIT FLOW TO AGRICULTURE

Banks were initially given a target of extending 15 per cent of the total advances as direct finance to the agriculture sector to be achieved by March 1985. This target was subsequently raised to 18 per cent to be achieved by March 1990. In terms of the guidelines issued by Reserve Bank of India in October 1993, both direct and indirect advances for agriculture are taken together for assessing the target of 18 per cent, with the condition that lendings for indirect agriculture should not exceed one fourth of the total agriculture lending target of 18 per cent of net bank credit. As at the end of September 2000, public sector banks had extended Rs 48,897 crore, constituting 15.83 per cent of the net bank credit, to the agriculture sector.

ADVANCES TO SC/ST BORROWERS

People belonging to the scheduled castes and scheduled tribes have been recognised as the most vulnerable sections. Banks have been asked to make special efforts to assist them with adequate credit to enable them to undertake self-employment ventures to acquire income generating capital assets so as to improve their standard of living. At the end of March 2000, the total outstanding loan extended to scheduled castes/scheduled tribes by public sector banks was Rs 9,630.71 crore in 71.36 lakh borrowal accounts.

DIFFERENTIAL RATE OF INTEREST SCHEME

Under the Differential Rate of Interest (DRI) Scheme, introduced in 1972, public sector banks are required to fulfill the target of lending of at least one per cent of the total advances as at the end of the preceding year to the weakest of the weak sections of the society at the interest of four per cent per annum. The scheme covers poor borrowers having an annual family income of not more than Rs 6,400 in rural areas and Rs 7,200 in other areas and not having more than 2.5 acres of unirrigated or one acre of irrigated land. They are given credit support of Rs 6,500 as term loan and working capital loan for productive ventures. The public sector banks had an outstanding of DRI credit amounting to Rs 432.82 crore at the end of March 2000.

SWARNA JAYANTI GRAM SWAROJGAR YOJANA

Swarna Jayanti Gram Swarajgar Yojna (SGSY) has replaced IRDP and its allied schemes, viz., Training of Rural Youth for Self Employment (TRYSEM), Development of Women & Children in Rural Areas (DWCRA), Supply of Improved Toolkits to Rural Artisans (SITRA), Ganga Kalyan Yojana (GKY) and Million Wells Scheme (MWS) with effect from April 1999.

The scheme aims at establishing a large number of micro enterprises in the rural areas of the country. The objective of the scheme is to bring every assisted family above the poverty line in three years by providing them income generating assets through a mix of bank credit and Government subsidy. The monthly income from activity to be undertaken should not be less than Rs 2,000 net of repayment to the bank at least in the third year.

SGSY is a holistic programme covering all the aspects of self-employment such as organisation of poor into Self Help Groups, training, credit, technology, infrastructure and marketing. The scheme will be funded on 75 : 25 basis by Centre and States and will be implemented by DRDAs through *Panchayat Samitis*.

There is no ceiling on the size of the loan amount. Group activities will be given preference. Major share of assistance will be for 4-5 key activities identified at the block level.

The year 2000-01 was the second year of implementation of the scheme. Up to February 2001 the total number of *Swarojgaris* assisted was 6,52,337. Bank credit to the tune of Rs 86,860.82 lakh and Government subsidy amounting to Rs 42,363.77 lakh were disbursed. Out of total *Swarojgaris*

assisted, 2,04,261 were SC, 81,947 were ST, 2,77,308 were women and 4,456 were physically handicapped.

SWARNA JAYANTI SHAHARI ROJGAR YOJANA

The *Swarna Jayanti Shahari Rojgar Yojana* (SJSRY) is in operation from 1 December 1997 in all urban and semi-urban towns of India. Among other components, the scheme has two sub-schemes where bank credit is involved, namely, Urban Self-Employment Programme (USEP) and Development of Women and Children in Urban Areas (DWCUA). The beneficiaries under the scheme are identified by the urban local bodies on the basis of house to house survey. Under the scheme, women are to be assisted to the extent of not less than 30 per cent, disabled at three per cent and SCs/STs at least to the extent of the proportion of their strength in the local population. The scheme is funded on a 75 : 25 basis between the Central and the State governments. Under USEP, unemployed and under-employed urban youth whose annual family income is below-poverty line and who are educated up to the ninth standard and who have been included in the ULB list, are to be assisted with bank loans. Projects costing up to Rs 50,000 are to be financed by banks. Subsidy would be provided by the Government at 15 per cent of the project cost subject to a maximum of Rs 7,500. The borrower has to bring in five per cent of the project cost as margin money. Interest will be charged as per interest rate directives issued by RBI. Partnerships are also permitted. Under DWCUA, women beneficiaries may take up self employment ventures in groups. DWCUA groups should consist of at least 10 urban poor women. The group is entitled to a subsidy of Rs 1,25,000 or 50 per cent of the project cost whichever is less. In addition, the group may set itself up as a thrift and credit society. The repayment schedule may range from three to seven years after initial moratorium of six to 18 months as decided by the banks. During the year 1999-2000, loans amounting to Rs 24,508.10 lakh were sanctioned to 98,096 persons while the disbursement was Rs 16,089.41 lakh to 66,747 persons.

PRIME MINISTER'S ROJGAR YOJANA

Prime Minister's Rojgar Yojana (PMRY) for educated unemployed youth was launched on 2 October 1993. The objective of the scheme was to provide sustained employment to about 10 lakh educated unemployed urban youth in micro-enterprises during the Eighth Five Year Plan. These enterprises cover manufacturing, service and business ventures. The scheme was implemented in urban areas during 1993-94 and from 1 April 1994, throughout the country. During 2000-01, banks sanctioned loans amounting to Rs 1,320.36 crore in 2.07 lakh accounts, while disbursements amounted to Rs 701.56 crore in 1.15 lakh accounts (data provisional).

REGIONAL RURAL BANKS

Regional Rural Banks (RRBs) were set up to take the banking services to the doorsteps of rural masses especially in remote rural areas with no access to banking services. These banks were originally intended to provide institutional credit to those weaker sections of the society called 'target groups'. The banks were also intended to mobilise and channelise rural savings for supporting

productive activities in the rural areas. However, with effect from 22 March 1997, the RRBs were allowed to lend outside the target group by classifying their advances into 'priority sector' and 'others'. Similarly, the interest rates on term deposits offered and interest rates on loans charged by RRBs have also been freed. The loans and advances of RRBs stood at Rs 15,798.54 crore as at the end of March 2001 and Rs 37,635.71 crore was mobilised as deposits by RRBs till that date (data provisional). RRBs which comply with certain prescribed conditions are also permitted to open and maintain non-resident accounts in rupees.

INDUSTRIAL DEVELOPMENT BANK OF INDIA

Industrial Development Bank of India (IDBI), established under the Industrial Development Bank of India Act, 1964, is the principal financial institution for providing credit and other facilities for development of industry, co-ordinating working of institutions engaged in financing, promoting or developing industries and assisting the development of such institutions. IDBI, has been providing direct financial assistance to large industrial concerns and also helping small and medium industrial concerns through banks and state-level financial institutions. Aggregate assistance sanctioned during 2000-2001 amounted to Rs 28,711 crore registering an increase of 6.5 per cent over the preceding year. Disbursements amounted to Rs 17,498.3 crore in 2000-2001 higher by 2.6 per cent. Profit after tax was Rs 691 crore.

EXPORT-IMPORT BANK OF INDIA

Export-Import Bank of India (EXIM Bank) was established on 1 January 1982 for financing, facilitating and promoting foreign trade in India. During the year ending 31 March 2001, EXIM Bank sanctioned loans of Rs 2,174 crore while disbursements amounted to Rs 1,896 crore. Net Profit (before tax) of the Bank for the period 2000-2001 on account of General Fund amounted to Rs 205 crore.

ICICI LIMITED

Industrial Credit and Investment Corporation of India (ICICI) Limited was established in 1955 as public limited company to encourage and assist industrial units in the country. Its objectives, *inter-alia*, include providing assistance in the creation, expansion and modernisation of industrial enterprises, encouraging and promoting participation of private capital both internal development and helping development of capital markets. It provides term loans in Indian and foreign currencies, underwrites issues of shares and debentures, makes direct subscriptions to these issues and guarantees payment of credit made by others. The assistance sanctioned and disbursed by ICICI during 2000-2001 aggregated Rs 56,092 crore and Rs 31,964.55 crore respectively, registering a growth of 29 per cent and 24 per cent respectively over the previous year. Net profit after tax is Rs 537 crore for the financial year 2000-2001.

NATIONAL HOUSING BANK

National Housing Bank (NHB), the apex institution of housing finance in India

was set up as wholly-owned subsidiary of the Reserve Bank of India (RBI) under the National Housing Bank Act, 1987. The statutory mandate of NHB covers promotional, developmental and regulatory aspects of housing finance with focus on developing a sound housing finance system. It started its operation from July 1988. NHB also amended its Act called as NHB (Amendment) Act, 2000 which came into force on 12 June 2000.

The authorised paid-up capital of NHB stood at Rs 350 crore and the reserves and surplus were Rs 565.92 crore as on 30 June 2000.

A major activity of NHB includes extending financial assistance to various eligible institutions in the housing sector by way of (a) refinance and (b) direct finance.

(a) Refinance : NHB extends refinance assistance to the various eligible primary lending institutions, *viz.*, Scheduled Banks, Housing Finance Companies (HFCs) and Co-operative Sector Institutions. The refinance assistance is extended to the primary lending institutions in respect of housing loans provided by these institutions for individuals as also for public and private agencies towards land development and shelter projects. The total refinance assistance extended by NHB to all eligible primary lending institutions was Rs 841.68 crore in 1999-2000 (July 1999-June 2000). The cumulative refinance assistance provided by NHB to the primary lending institutions stood at Rs 5,215.69 crore up to 30 June 2000. The total number of HFCs approved for availing refinance from NHB on 31 March 2000 stood at 29.

(b) Direct Finance : NHB provides direct finance for integrated land development and shelter projects of public agencies in respect of Land Development and Shelter Projects (LDSPs), Slum Redevelopment Projects (SRPs) and Housing Infrastructure Projects (HIPs) where the projects/agencies are able to comply with the financial discipline norms laid down by NHB. Under the direct financing window, NHB has so far sanctioned 282 projects under its various project finance schemes both direct as well as through the refinance window. During the year 1999-2000 NHB disbursed Rs 50.50 crore under the direct finance window. Cumulatively till end of June 2000, NHB has disbursed Rs 332.92 crore under this scheme.

NHB has issued directions to the HFCs in respect of matters relating to acceptance of deposits. The regulatory role of NHB is supported through an on-going system of on-site and off-site supervision. In order to ensure efficiency in the performance of the HFCs, NHB has also issued guidelines on prudential norms relating to income recognition, asset classification, provisions and credit concentration, etc.

During the 50th year of India's independence NHB launched the Golden Jubilee Rural Housing Finance Scheme to encourage the formal sector institutions to extend loans for rural housing. The scheme is being implemented through Scheduled Banks, HFCs and Co-operative Sector Institutions. The target for 1999-2000 fixed at 1,25,000 dwelling units was successfully met. The target for 2000-2001 is to finance 1,50,000 dwelling units. In order to ensure

greater flow of resources to the housing sector, NHB is in the process of initiating measures for the introduction of mortgage backed securitisation.

HOUSING FINANCE

The overall minimum target during 1999-2000 for housing finance provided by commercial banks was raised to three per cent (from earlier 1.5 per cent) of their incremental deposits of the previous year or the amount of housing finance allocations fixed for the year 1998-99 whichever is higher. The individual amount of housing loans provided by commercial banks either directly or indirectly, to be eligible for inclusion under the priority sector, continues to be at Rs five lakh, except in the case of direct finance to individuals in urban/metropolitan areas where it has been revised to Rs ten lakh. Investment by banks in special bonds of NHB and HUDCO exclusively for financing of housing, irrespective of the loan size has also been included under the priority sector advances.

SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA

Small Industries Development Bank of India (SIDBI) was established as a wholly-own subsidiary of the Industrial Development Bank of India (IDBI) under the Small Industries Development Bank of India Act, 1989 as the principal finance institution for promotion, financing and development of industries in the small scale sector. SIDBI started its operations from 2 April 1990 and is engaged in providing assistance to the small scale industrial sector in the country through other institutions like state financial corporations, commercial banks and state industrial development corporations. SIDBI amended its SIDBI Act, 1989 and with effect from 27 March 2000 SIDBI (Amendment) Act, 2000 was introduced. The financial assistance sanctioned and disbursed aggregated to Rs 10,820.6 crore and Rs 6,441.3 crore respectively during 2000-2001.

NABARD

National Bank for Agriculture and Rural Development (NABARD) came into existence on 12 July 1982. It took over the functions of the erstwhile Agriculture Credit Department, Rural Planning and Credit Cell of the Reserve Bank of India and Agriculture Refinance and Development Corporation. NABARD was established for providing credit for promotion of agriculture, small scale industries, cottage and village industries, handicrafts and other allied economic activities in rural areas with a view to promoting integrated rural development and securing prosperity of rural areas.

Amendments to the NABARD Act, 1981 were introduced in the year 2000. These *inter alia* relate to NABARD's role in credit regulation, enhancement of capital limit from Rs 500 crore to Rs 5,000 crore, private equity holding up to 49 per cent with a minimum of 51 per cent by GOI and RBI, changes in the compositions of the Board with increased representation of State

government and shareholders, mobilisation of resources independent of GOI/RBI clearances subject to Board's approval.

NABARD provides refinance to state land development banks, scheduled commercial banks (SCBs) and regional rural banks (RRBs) against the term loans sanctioned by them to the ultimate beneficiaries who can be an individual, partnership concerns, companies, stateowned corporations, etc.

Since 1995-96 NABARD has been sanctioning loans to State governments for completion of ongoing/for taking up new rural infrastructure projects related to major and medium irrigation, rural roads and bridges, food protection schemes, watershed management schemes, etc., from the Rural Infrastructure Development Fund (RIDF) constituted by the Union Government with NABARD.

During 2000-01, NABARD disbursed Rs 6,218 crore as refinance for investment purposes. The short-term (ST) credit limits sanctioned for 2000-01 to SCBs for Seasonal Agricultural Operations up to the end of March 2000-01 aggregated to Rs 6,399.92 crore. Outstandings against this limit stood at Rs 4,966.39 crore as at the end of March 2001. The credit limit sanctioned during 2000-01 included Rs 936.62 crore for Oilseed Production Programme (OPP), Rs 49.87 crore for National Pulses Development Programme (NPDP) and Rs 211.36 crore for Development of Tribal Population (DTP), ST credit limits sanctioned to RRBs for SAO for 2000-01 aggregated Rs 1,114.42 crore up to March 2001. The outstanding NABARD refinance under ST (SAO) credit limits sanctioned to RRBs amounted to Rs 986.84 crore as at the end of March 2001. More than 1,49,050 Self Help Groups (SHGs) were linked to banks during 2000-01. The loan assistance during the year was Rs 287.88 crore with NABARD refinance at Rs 250.62 crore. The cumulative position of SHGs linked have thus gone up to 2,63,825 with cumulative loan assistance of Rs 480.87 crore and NABARD refinance of Rs 400.74 crore as on 31 March 2001.

INDIAN BANKS ABROAD

Indian Banks have their presence in 32 countries, with a network of 94 branches, three off-shore banking units, five joint ventures, 16 subsidiaries and 14 representative offices. As on 31 March 2001 nine Indian Banks—eight from the public sector and one from the private sector—had operations overseas. Bank of Baroda has the highest concentration, with 38 branches in 10 countries, followed by State Bank of India with 22 branches in 13 countries and Bank of India with 18 branches in nine countries. Among the countries, UK registers the largest presence with 19 branches, Fiji a distant second with nine branches. While the off-shore banking units are located in important off-shores financial centres such as Bahamas, Cayman Islands, Channel Islands and Mauritius, the subsidiaries owned mainly by the bigger banks (*viz.*, SBI, BOI and BOB) are located in countries such as Guyana, Hong-Kong, Uganda, Kenya, Botswana, Canada, Mauritius and Nigeria.

TABLE 13.4 : PROGRESS OF COMMERCIAL BANKING IN INDIA

S. No.	Item	March 1996	March 1997	March 1998	March 1999	March 2000
1.	Number of Commercial Banks	293	299	300	303	297
	(a) Scheduled Commercial Banks	291	297	299	302	297
	Regional Rural Banks of (a)	196	196	196	196	196
	(b) Non-Scheduled Commercial Banks	2	2	1	1	-
2.	Bank Offices in India	63,026	63,550	64,218	64,939	65,412
3.	Population per office (in thousands)	15	15	15	15	15
4.	Deposits of Scheduled Commercial Banks in India (Rs crore)	4,29,003	4,99,763	5,98,485	7,14,025	8,51,593 ¹
5.	Credit of Scheduled Commercial Banks in India (Rs crore)	2,54,015	2,78,401	3,24,079	3,68,837	4,54,069
6.	Per Capita Deposits of Scheduled Commercial Banks (Rs)	4,613	5,261	6,170	7,237	8,498
7.	Per Capita Credit of Scheduled Commercial Banks (Rs)	2,719	2,931	3,356	3,738	4,531
8.	Deposits of Scheduled Commercial Banks as percentage of National Income at current prices	44.0	43.8	47.3	48.7	54.1

¹ Including Resurgent India Bonds (Rs 13,945 crore)

Source : Banking Statistics, Basic Statistical Returns, Volume-28, March 1999

INSURANCE

LIFE INSURANCE CORPORATION OF INDIA

Life Insurance Corporation of India (LIC) was established on 1 September 1956 to spread the message of life insurance in the country and mobilise people's savings for nation-building activities. LIC with its central office in Mumbai and seven zonal offices at Mumbai, Kolkata, Delhi, Chennai, Hyderabad, Kanpur and Bhopal operates through 100 divisional offices in important cities and 2,048 branch offices. As on 31 March 2001 LIC had 7.87 lakh agents spread over the country. The Corporation also transacts business abroad and has offices in Fiji, Mauritius and United Kingdom. LIC is associated with joint ventures abroad in the field of insurance, namely, Ken-India Assurance Company Limited, Nairobi; United Oriental Assurance Company Limited, Kuala Lumpur and Life Insurance Corporation (International), E.C.Bahrain. The Corporation has registered a joint-venture company—Life Insurance

Corporation (Nepal) Limited in Kathmandu on 26 December 2000 in collaboration with a local industrial group. An offshore company LIC (Mauritius) Offshore Limited has also been registered on 19 January 2001 to tap the African insurance market.

During 2000-2001 the total new business under individual assurances was Rs 1,23,078.89 crore under 194.34 lakh policies. The group insurance business during the year is Rs 6,204.98 crore providing cover to 59.97 lakh people. In addition, LIC sold 3,44,769 new individual pension policies.

The Life Fund of LIC on 31 March 2001 has exceeded Rs 1,800 billion. During 2000-2001 the Corporation made payments of Rs 1,910.91 crore under death claim cases, Rs 9,757.53 crore under maturity claims and Rs 647.02 crore under annuities.

SOCIAL SECURITY GROUP SCHEME

A Social Security Fund (SSF) administered by the LIC was set up in 1988-89 to meet the insurance requirements of the weaker and vulnerable sections of the society. As on 31 March 2001 about 45 lakh people belonging to 24 occupational groups/areas have been covered under various social security group schemes financed from the SSF. Under these schemes people in the age group of 18-60 years are covered for a sum of Rs 5,000 on death due to natural causes and Rs 25,000 on death/total permanent disability due to accident. The amount payable is Rs 12,500 on partial permanent disability due to accident. While the SSF subsidises 50 per cent of the premium, the beneficiary has to pay the remaining 50 per cent.

Under Landless Agricultural Labourers Group Insurance Scheme (LALGI) in operation since 1987, the heads of the families in the age group of 18 to 60 years and not appearing as a landholder in the revenue records and not having inheritable right in agricultural land are eligible to be covered for an insurance cover of Rs 2,000 payable only on death before 60 years. Initially, it was operated by LIC on behalf of the Central Government which used to reimburse to LIC the premium payable by the beneficiaries. However, with effect from 1 April 1990 the entire premium payable by the beneficiaries is being met out of the SSF. It is estimated that about 1.2 crore landless agricultural labourers are presently covered under the scheme. During 2000-2001, 32,237 death claims were settled. The scheme was in force up to 14 August 2000.

All over the country, the Integrated Rural Development Programme (IRDP) beneficiaries between the age group of 18 to 60 years are covered under a Group Life Insurance Scheme being operated by the LIC for which the entire premium is paid by the Central Government. An amount of Rs 5,000 is payable to the beneficiary in case of natural death and Rs 10,000 in case of accidental death. During 2000-2001, 3,148 claims were settled.

The Rural Group Life Insurance Scheme (RGLIS) announced on 15 August 1995, is a group insurance scheme which provides a life cover of Rs 5,000 for persons in rural areas. The premium payable is Rs 60 per year

for those who enroll up to the age of 40 years and Rs 70 per year for those who enroll beyond 40 years and up to 50 years. The entry age is restricted to 20 years (minimum) and 50 years (maximum). Death occurring after 60 years is not covered, nor is there any saving element in the scheme. There are two types of schemes: (i) General Scheme for persons between the age of 20 and 50 years where premiums are to be paid by the members in full and (ii) Subsidised Scheme - for persons between the age of 20 and 50 years who belong to a household below-poverty line. Only one member of such a household is eligible under the scheme. LIC provides incentives at the rate of Rs six for enrolment of a new member and Rs three for renewal of insurance cover on the life of an existing member in the subsequent year. From 15 August 1995 to 31 March 2000, 14,35,416 new members were enrolled for insurance cover. Among them 13,74,283 lives were under subsidised category and 61,133 lives were under General (non-subsidised) category. The scheme was in force up to 31 March 2001.

JANASHREE BIMA YOJANA

The *Janashree Bima Yojana* was launched on 10 August 2000. The scheme has replaced Social Security Group Insurance Scheme (SSGIS) and Rural Group Life Insurance Scheme (RGLIS).

The Scheme provides for an insurance cover of Rs 20,000 on natural death. On death/total permanent disability due to accident, the benefit is Rs 50,000. On partial permanent disability due to accident the benefit is Rs 25,000. The premium for the scheme is Rs 200 per member. The Central Government will bear 50 per cent premium which will be met out of Social Security Fund. The balance premium is to be borne by the member. As on 31 March 2001, about two lakh people have been covered.

GENERAL INSURANCE CORPORATION OF INDIA

The general insurance industry in India was nationalised and General Insurance Corporation of India (GIC) was formed by the Central Government in November 1972. With effect from 1 January 1973 the erstwhile 107 Indian and foreign insurers, operating in the country prior to nationalisation, were grouped into four operating companies, namely, (i) National Insurance Company Limited; (ii) New India Assurance Company Limited; (iii) Oriental Insurance Company Limited; and (iv) United India Insurance Company Limited. These four subsidiaries of GIC operate all over the country competing with one another and underwriting various classes of general insurance business. Besides the domestic market, the industry is presently operating in 16 countries directly through branches or agencies and in 14 countries through subsidiary and associate companies. The wholly-owned subsidiary of GIC known as India International Insurance Private Limited, set up in 1988 in Singapore, has grown into a leading company in the Singapore market.

Insurance Regulatory and Development Authority Bill, 1999 as passed by both Houses of Parliament was notified on 29 December 1999. The Act provides for the establishment of a statutory Insurance Regulatory and

Development Authority (IRDA) to protect the interest of holders of insurance policies and to regulate, promote and ensure orderly growth of the insurance industry. It also amends Life Insurance Corporation Act, 1956, General Insurance Business (Nationalisation) Act, 1972 and brings in consequential provisions in Insurance Act, 1938 with a view to cease the exclusive privilege of LIC and GIC in life and non-life business respectively. IRDA, which was constituted on 19 April 2000, has already notified 50 regulations covering subject of appointment of Actuaries, licensing of insurance agents, registration of insurance companies, assets and solvency margin, re-insurance, investment/obligation of insurer in rural or social sector, etc. So far certificate of registration has been issued to 12 new private companies, some of which have already commenced business.

The gross premium income of the nationalised general insurance industry in India during 1999-2000 was Rs 9,523 crore as against Rs 8,759 crore during 1998-99, representing a growth of 8.72 per cent over the premium income of 1998-99. The net premium income of the nationalised general insurance industry in India during the year 1999-2000 was Rs 8,649 crore as against Rs 7,732 crore in 1998-99, representing a growth of 11.86 per cent over the net premium income of 1998-99. The gross profits of the industry during 1999-2000 were Rs 1,152 crore as against Rs 1,467 crore in 1998-99. Similarly, the net profits of the industry during the year 1999-2000 were Rs 874 crore as against Rs 1,077 crore in 1998-99.

The Mediclaim Insurance Policy provides for reimbursement of medical expenses incurred by an individual towards hospitalisation/domiciliary hospitalisation for any illness, injury or disease contracted or sustained during the period of insurance. With effect from 1 November 1999, the maximum compensation under the Scheme has been revised from Rs three lakh to Rs five lakh. The policy is open to persons between five years to 80 years.

Jan Arogya Bima Policy is primarily meant for the larger segment of the population who cannot afford the high cost of medical treatment. The limit of cover per person is Rs 5,000 per annum. The premium for an adult individual is Rs 70 per annum up to 45 years of age. Persons beyond 45 years and up to 70 years can also be covered with slightly higher premium. Two dependent children below the age of 25 are also covered for the same compensation amount of Rs 5,000 per annum per child but at a concessional premium of Rs 50 per person. The cover provides for reimbursement of medical expenses incurred by an individual towards hospitalisation/domiciliary hospitalisation for any illness, injury or disease contracted or sustained during the period of insurance.

The existing Overseas Mediclaim Policy offering emergency medical expenses cover to overseas travellers has been extended to include In-flight Personal Accident cover up to US \$ 10,000 and Loss of Passport cover up to US \$ 150 from 1 April 1997. The extended cover will be available without payment of additional premium under Business and Holiday cover and under the Corporate Frequent Travellers cover. A more comprehensive policy with additional benefits has also been devised.

A new policy called *Videsh Yatra Mitra* Policy covering supplementary benefits besides providing indemnity for medical expenses during the period of overseas travel, has been introduced by the four nationalised general insurance companies with effect from 1 January 1998. Two types of policies—one offering limit of benefits up to US \$ 2,50,000 for worldwide travel but excluding USA and Canada and the other offering limit of benefits up to US \$ 5,00,000 for worldwide travel including USA and Canada are available under the scheme. In addition to medical coverage, the policy also provides coverage for : (i) Personal Accident up to US \$ 25,000; (ii) Loss of Personal Baggage up to US \$ 1,000; (iii) Delayed Baggage up to US \$ 100, (iv) Loss of Passport up to US \$ 250 and (v) Personal Liability up to US \$ 2,00,000. The premium under the policy is only 14 per cent more than that under the existing Overseas Mediclaim Policy (OMP), while the medical benefits will be increased five times in addition to supplementary benefits. Travellers have the option to choose any of the two policies, i.e., either the existing OMP or the new policy.

Bhagyashree Child Welfare *Bima Yojana* was introduced with effect from 19 October 1998. It covers one girl child in a family up to the age of 18 years whose parents' age does not exceed 60 years. The premium per girl child is Rs 15 per annum. In case of death of both or either of the parents, an amount of Rs 25,000 would be deposited in the name of the girl child with a financial institution. Fixed annual disbursements to the girl child up to the age of 18 years would be made from the amount to her credit and the balance amount to her credit would be disbursed to her on attaining the age of 18 years. In the event of death of the girl before attaining the age of 18 years, due to accident and surgical operations, the balance amount standing to the credit of the girl child, will be paid to the surviving parent/guardian.

Raj Rajeshwari Mahila Kalyan Yojana offering security to women in the age-group of 10 to 75 years irrespective of their occupation was introduced with effect from 19 October 1998. For a premium of Rs 15 per annum, the policy provides a cover of Rs 25,000 for permanent total disablement of the insured woman. The policy also provides a cover of Rs 25,000 for the death of her husband. For the death of an unmarried woman, the policy provides a cover of Rs 25,000 which will be payable to her nominee/legal heir.

The Government of India has introduced a new scheme, called the National Agricultural Insurance Scheme (NAIS) with effect from Rabi 1999-2000 season replacing the Comprehensive Crop Insurance Scheme. The main objective of the scheme is to protect the farmers against losses suffered by them due to crop failure on account of natural calamities. The new scheme is open to all the farmers and envisages coverage of all food crops (cereals, millets and pulses), oilseeds and annual horticultural/commercial crops subject to availability of past yield data. Seven crops namely, sugarcane, potato, cotton, ginger, onion, turmeric and chillies are presently being covered. All other annual horticultural and commercial crops will be covered in the third year subject to the condition of availability of past yield data.

The concept of *Lok Adalat*, for amicable settlement of Motor Accident Third Party claims out of court, has been institutionalised. Since the inception of *Lok Adalat* in 1985 till 31 March 2000, the industry has participated in over 12,000 *Lok Adalats* and settled about 4,74,000 claims involving disbursement of over Rs 1,946 crore by way of compensation.

The four nationalised insurance companies have introduced *Jald Rahat Yojana* with an objective to expedite payment of compensation to road accident victims. Under the scheme, a claimant is not required to go to Motor Accident Claims Tribunal for claiming compensation and he can directly approach the concerned insurance company. Non-fatal injury claims involving accident victims of 18 years and above are taken up under this scheme. The scheme is in operation in Ahmedabad, Mumbai, Bangalore, Kolkata, Delhi, Kochi, Chennai and Pune. To expedite settlement of Motor Accident Third Party claims, special in-house committees have also been formed.

DISINVESTMENT

The main elements of the Government's policy towards the public sector are: (a) Restructure and revive potentially viable PSUs; (b) Close down PSUs which cannot be revived; (c) Bring down Government equity in all non-strategic PSUs to 26 per cent or lower, if necessary; and (d) Fully protect the interests of workers. This Policy covers all non-strategic PSUs, whether they are profit making or not.

A target of Rs 10,000 crore through disinvestment of Government held equity in public sector enterprises was set for the year 2000-2001, but due to some constraints, only about Rs 1,868 crore could be realised. This included an amount of Rs 551.50 crore raised through strategic sale of 51 per cent of equity in BALCO, taking over of Bongaigaon Refinery and Petrochemicals Limited (BRPL) and Chennai Refinery by the Indian Oil Corporation Limited for Rs 658 crore and taking over of Cochin Refinery by Bharat Petroleum and Chemicals Limited (BPCL) for Rs 659 crore.

A target of Rs 12,000 crore through disinvestment of Government-held equity in Public Sector Undertakings has been set for the year 2001-2002. An amount of Rs 7,000 crore out of this will be used for providing restructuring assistance to PSUs, safety net to workers and reduction of debt burden. A sum of Rs 5,000 crore will be used to provide additional budgetary support for the Plan, primarily in the social and infrastructure sectors. This amount is proposed to be raised through disinvestment in over 30 public sector undertakings and their subsidiaries, in which the disinvestment process has already been initiated. This includes key companies like Air India Limited (AI), Indian Airlines Limited (IA), Computer Maintenance Corporation Limited (CMC), Jessop & Company Limited, Hindustan Zinc Limited (HZL), HTL Limited, Hindustan Cables Limited, Indian Petrochemicals Corporation Limited (IPCL), India Tourism Development Corporation Limited (ITDC), IBP Limited, Madras Fertilizers Limited (MFL), National Fertilizers Limited (NFL), Maruti Udyog Limited, Minerals and Metal Trading Corporation of India Limited (MMTC), State Trading Corporation (STC) and Videsh Sanchar Nigam Limited (VSNL).

INVESTMENT

UNIT TRUST OF INDIA

Unit Trust of India (UTI) was established in 1963 by an Act of Parliament to encourage and mobilise savings of small investors through the sale of 'Units' and to channelise these resources into corporate securities. Over the years, it has rapidly grown and diversified to become an important part of the Indian Financial System. Today UTI enjoys a market share of 57 per cent in the mutual fund industry.

The investible funds of all UTI schemes is over Rs 70,234 crore (as on May 2001) having over 4.18 crore investor accounts. This investor base is serviced through a network of 54 branch offices, 57 franchise offices, 183 collection centres, 266 chief representatives and 67,000 agents. As on 30 June 2001, UTI manages 85 schemes.

UTI has a portfolio exposure in various companies covering large number of companies in the public, private, joint and financial sectors. UTI is also a major investor in Government Securities and Money Market Instruments. UTI's investment in the corporate sector is in the form of equity, preference shares, debentures, term loans and special deposits. As in May 2001, more than 58 per cent of total funds of UTI schemes are invested in equity. UTI is the largest operator in the Indian equity market with total investments worth about Rs 40,900 crore at book value.

UTI launched the first Indian off-shore fund, 'The India Fund' in 1986. In 1988 UTI floated the India Growth Fund which is listed on the New York Stock Exchange. Subsequently UTI launched the India Access Fund—an Indian Index Fund (linked to the NSE 50 Index), India Debt Fund, India Information Technology Fund and India Public Sector Fund. India Information Technology Fund was ranked number one in its category by the Lipper International for CY 1998. In the recent past, UTI has extended its support to the development of Unit Trusts in other developing countries like Sri Lanka, Bhutan and Egypt by providing technical advice, as well as participation in the equity capital.

UTI has set up a number of associate companies in the field of banking, securities trading, investor servicing, investment advice and training. The companies and organisations in the UTI group are: (i) UTI Bank Limited (1994)—the first private-sector bank set up under RBI guidelines; (ii) UTI Securities Exchange Limited (1994)—the first institutionally sponsored corporate stock-broking firm; (iii) UTI Investor Services Limited (1993)—the first institutionally sponsored Registrar and Transfer agency; (iv) UTI Institute of Capital Markets (1989)—the first such institute in Asia, excluding Japan, and (v) UTI Investment Advisory Services (1988)—the first Indian Investment Advisor registered with SEC (USA). Besides UTI also has a marketing set up known as UTI (International) Limited, located in London and Dubai.

During the year 2000-2001, UTI launched a unique scheme 'UTI Mahila Unit Scheme, specifically meant for female investors.

FOREIGN DIRECT INVESTMENT

The foreign direct investment policy provides for investment in Indian companies/setting up of wholly-owned subsidiary in most of the areas.

The approval mechanism for the foreign direct investment has a two tier system, *viz.*, the automatic approval route under which for investment in areas identified and up to the limits of foreign equity prescribed, companies can issue shares and receive inward remittance with a reporting requirement within a period of 30 days. No reference to the Government is required. In all other cases, the proposals are considered by a Foreign Investment Promotion Board (FIPB) serviced by the Department of Industrial Policy and Promotion (DIPP). Simplifying the procedure, the RBI has dispensed with the need for obtaining RBI's 'in principle' permission before receiving overseas investment or at a later stage for issuing shares to the foreign investors. The company would, however, have to make report to the RBI within 30 days after issue of shares to the foreign investors.

Automatic Approval : All the sectors are under Automatic Route except for certain areas as mentioned in Press Note No. 2 (2000 series) of DIPP, which has been further modified vide Press Note No. 4 (2001 series) of DIPP.

Foreign investment proposals for acquisition of shares in existing companies are considered only where the applications are made by the Indian company or where the proposals are supported by a Board resolution of the Indian company.

Non-Banking Finance Companies (NBFCs)/FIPB approvals : The Ministry of Finance, the Department of Economic Affairs is the administrative Ministry in respect of foreign investment proposals in the non-banking finance sector.

Foreign equity investments in NBFCs are permitted in 18 categories of NBFC activities so far approved for foreign equity investments such as merchant banking, stock broking, venture capital, housing finance, forex broking, leasing and finance, financial consultancy, etc. Recently Micro credit has been included in the list. Guidelines for foreign investment in NBFC sector have been amended so as to provide for a minimum capitalisation norm of US \$ 0.5 million, for the activities which are not fund based. This provision would be applicable to Investment Advisory Services, Financial Consultancy, Credit Reference Agencies, Credit Rating Agencies, Forex Broking and Money Changing Business.

It was also decided to grant permission to a holding company with a minimum capital of US \$ 50 million, freedom to set up a 100 per cent downstream subsidiary with a minimum capital of US \$ five million. Such a subsidiary, however, would have to disinvest its equity to the minimum extent of 25 per cent, through a public offering only, within a period of three years.

POLICY REFORMS IN THE PRIMARY CAPITAL MARKET

Eligibility Norms : If the issuer company does not have a track record of profits or if it proposes to raise more than five times its pre-issue network, the issue shall have to be compulsorily made through book building route and 60 per cent of the offer allotted to Qualified Institutional Buyers (QIBs). If the 60 per cent cannot be allotted to QIBs, the issue would fail. This measure would provide safety to retail investors as it involves market appraisal and price acceptance by well-informed investors.

Demat Trading of IPOs : To eliminate the problems relating to loss of allotment letters, share certificates, etc., and to encourage investors to opt for demat credit of allotments, trading for all IPOs were to be compulsorily in dematerialised form with an option available to investors for physical shares.

Listing of Debt before Equity : The present facility of listing of debt securities of infrastructure companies and municipal corporations without having listed their equity was extended to all companies subject to certain conditions.

Relaxation of Minimum Offer to Public : To facilitate the availability of good quality paper in the form of IPOs in the primary market, Indian companies in media, entertainment and telecom sectors have been allowed to access the market by offering minimum 10 per cent of post-issue capital to the public subject to minimum offering of 20 lakh shares for an amount not less than Rs 50 crore. Subsequently, the relaxation was extended to all companies with the same conditions and the issue size has been increased from Rs 50 crore to Rs 100 crore.

Foreign Institutional Investors (FIIs) : Foreign corporates and individuals have been permitted to invest in the Indian capital market through FIIs registered with SEBI since September 1992. The total investment made by an individual investor/corporate investor in this category shall not exceed five per cent of the total capital of a company. The aggregate limit for FII portfolio investment was 24 per cent, which could go up to 40 per cent of the total capital of the company if approved by the board of directors and shareholders through a special resolution. In the Union Budget 2001-02 this limit has been increased to 49 per cent.

Approved domestic asset management companies and registered domestic portfolio managers have been permitted to manage foreign investment in the Indian capital market through the portfolio investment route.

Corporate Governance : SEBI has made some of the best practices of corporate governance mandatory, through a phased programme. The board of directors of a company shall have an optimum combination of executive and non-executive directors with not less than 50 per cent of the board consisting of non-executive directors. A qualified and independent audit committee is required to be set up, which will meet at least thrice a year. The annual reports of companies are to have a separate section on corporate governance. Remuneration of non-executive directors shall be decided by the

board of directors. Disclosures on the remuneration of directors are to be made in the section on corporate governance of the annual report. The new clause in the listing agreement also lays down board procedures including the frequency of board meetings. Further, a director shall not be a member in more than 10 committees or act as Chairman of more than five committees across all companies in which he is a director. Shareholders are to be provided information in case of appointment of a new director or re-appointment of a director. A board committee is to be formed to look into redressal of shareholder and investor complaints.

Investor Protection and Education : SEBI, has decided to facilitate setting up of investor education centres which would have facilities of internet connectivity, books, newspapers and other informative material for students and investors. It has also been decided to earmark a sum of Rs one crore for reimbursement to investors' associations registered with SEBI to meet their expenses on conducting seminars, publication and circulation of investor education material and one time capital expenditure for setting up of computer terminals, installation of a database on companies and internet services.

Collective Investment Schemes : The SEBI (Collective Investment Schemes) Regulations, 1999 notified on 15 October 1999 states that no person other than a Collective Investment Management Company which has obtained a certificate of registration under the SEBI (Collective Investment Schemes) Regulations, 1999 can carry on or sponsor or launch a Collective Investment Scheme. Also, no existing Collective Investment Scheme can launch any new scheme or raise money from the investors even under the existing schemes, unless a certificate of registration is granted to it under the said regulations. Pursuant to the enactment of the Securities Laws (Amendment) Act, 1999 whereby units and instruments of Collective Investment Scheme (CIS) have been included in the definition of securities in the Securities Contracts (Regulation) Act, 1956, listing rules for CIS have been prescribed under the Act.

Investment in ADRs/GDRs by Mutual Funds : With a view to expand the spectrum of investment opportunities available to mutual funds, measures have been taken to permit mutual funds to enter the global securities market. Mutual funds have now been permitted to invest in overseas securities. Initially this facility has been extended to ADRs/GDRs issued by Indian companies with an overall cap of US \$ 500 million with a sub ceiling of 10 per cent of the net assets managed by individual mutual funds and a maximum limit of US \$ 50 million for each mutual fund.

Mutual funds have been allowed to enter into derivatives transactions for the purpose of hedging and portfolio balancing. Detailed guidelines on the procedures to be followed while entering into derivatives trading have been issued.

Venture Capital : Regulations for venture capital have been harmonised and the SEBI is now the single-point nodal agency for registration and regulation

of both domestic and overseas venture capital funds (VCFs). The principle of "pass through" is now applied in tax treatment of VCFs. The Income Tax Act has been amended to provide that any income received by a person out of investment made in a Venture Capital Company (VCC) or a VCF shall be chargeable to income-tax in the same manner as if it were the income received by such person had the investment been made directly in the Venture Capital Undertaking (VCU).

STOCK EXCHANGES

Stock exchanges provide an organised market for transactions in equities and other securities. There are 24 stock exchanges in the country, 20 of them are functioning at regional level with a given jurisdiction. The National Stock Exchange of India Limited (NSEIL), Over-the-Counter-Exchange of India Limited (OTCEI), Inter-connected Stock Exchange of India Limited (ISE) and the Stock Exchange, Mumbai (BSE) operate at national level with trading terminals in different cities. The ISE is promoted by 15 regional stock exchanges in the country and has been set up at Mumbai. The ISE provides a member-broker of any of these stock exchanges an access into the national market segment in addition to local trading segment available at present.

The stock exchanges in India have adopted the screen based trading system (SBTS) to provide automated and modern facilities for trading in a transparent, fair and open manner with access to investors across the country. Internet trading under order routing system has been permitted by SEBI in a limited way through registered stock-brokers on behalf of clients for execution of trade on recognised stock exchanges from 31 January 2000. As on 31 March 2001, there were 9,954 listed companies on all the stock exchanges in the country. The market capitalisation of all listed companies at BSE was Rs 5,71,553 crore as on 31 March 2001. Total turnover of all the stock exchanges during 2000-2001 was Rs 28,80,804 crore.

DEPOSITORIES

A major development in the Indian securities market has been the growth of depositories leading to paperless trading and dematerialisation of securities. The Securities and Exchange Board of India (SEBI) has granted registration to two depositories, namely, the National Securities Depository Limited (NSDL) and the Central Depository Services (India) Limited (CDSL) under the Depository Act, 1996. The objective of the depository services is to improve and modernise the market and to enhance the level of investor protection through eliminating bad deliveries, forgery of shares and expediting the transfer of shares. This is being done through electronic book entry form and scripless trading in stock exchanges thereby reducing settlement risk.

As on 31 March 2001, there were 431 depository participants offering depository service from around 335 cities throughout the country and more than 36 lakh investor accounts have been opened. Rs 4,35,000 crore worth of securities have been dematerialised by 31 March 2001.

POLICY REFORMS IN THE SECONDARY CAPITAL MARKET

Rolling settlement : It is an important capital market reform measure, which brings in certainty of trades, reduces risk and delay in settlement. Under rolling settlement, all open positions at the end of the day mandatorily result in payment/delivery "X" days later (in the Indian stock market, "X" is five days). Rolling settlement has been implemented in the Indian Capital market in phases. From July 2001, 414 scrips have been brought under compulsory rolling settlement mode.

Derivatives trading : With the enactment of the Securities Laws (Amendment) Act, 1999 in December 1999, which amends the Securities Contract (Regulation) Act, 1956 to enable derivative instruments to be treated as "securities" under the Act, trading in derivatives has been made possible within the framework of that Act. Exchange traded stock index futures has commenced on the BSE from 9 June 2000 and from 12 June 2000 on the NSE. Other derivative products like stock index option and individual stock options commenced trading on the BSE on 1 June 2001 and 9 July 2001 respectively and on NSE these derivative products commenced trading on 4 June 2001 and 2 July 2001 respectively.

Regulation of debt market : In order to enable an orderly development of the capital markets, particularly the debt market, the Government has issued another notification on 1 March 2000, delineating the areas of regulatory responsibility between RBI and SEBI. GOI has delegated powers to RBI for regulating contracts in Government Securities, gold related securities and money market securities and in securities derived from these securities and in relation to ready forward contracts in bonds, debentures, debenture stock, securitised debt and other debt securities. Such contracts in securities entered into on the exchange, will be regulated by SEBI in a manner consistent with the guidelines issued by RBI.

CURRENCY AND COINAGE

There are nine industrial units in the country engaged in the production of Currency and Coins. Out of these, four are Mints, two Note Printing Presses, two Security Printing Presses and one Security Paper Mill.

MINTS

The five Government Mints are at Mumbai, Kolkata, Hyderabad, Cherlapally and Noida. Mumbai and Kolkata Mints assay gold, silver and alloys for coins, medals, badges, etc. The Mumbai Mint manufactures commemorative coins and weights, volume and length measures and also undertakes gold melting, refining and casting work. The Mints also exchange standard gold bars against un-refined gold through collection-cum-delivery centres. Kolkata Mint also makes commemorative coins and medals.

The Mints also dispose of withdrawn coins and tender expert opinion on counterfeit and doubtful coins.

PRESSES

(i) Currency Note Press, Nashik (Maharashtra) prints and supplies Notes of denominations of rupees ten, fifty, hundred and five hundred. The printing of rupees one thousand has also commenced.

(ii) Bank Note Press, Dewas (Madhya Pradesh), has two production units, *viz.*, Printing Press and Ink Factory. The Press prints higher denomination of bank notes, *viz.*, rupees twenty, fifty, hundred and five hundred. The Ink Factory manufactures security inks for its own use and partially to meet the requirement of Security/Currency Printing Presses.

Currency Notes are also printed at *Bhartiya Reserve Bank Note Mudran Limited* at Salboni (West Bengal) and Mysore under the control of RBI.

(iii) India Security Press, Nashik consists of two units, the Stamp Press and Central Stamp Depot. The Stamp Press Unit prints postal stationery, postal and non-postal stamps, judicial and non-judicial stamps, RBI/SBI cheques, bonds, National Savings Certificates, *Indira Vikas Patras*, *Kisan Vikas Patras*, Postal Orders, Passports, Promissory Notes and such other security documents as may be required by the Central and State governments, public sector undertakings and local bodies.

(iv) Security Printing Press, Hyderabad produces Post Cards, Inland Cards, Envelops, and Non-Judicial Stamps to supplement the output of India Security Press, Nashik to cater to the need of southern states, and Central Excise Stamps to cater to the need of the country.

(v) Security Paper Mill, Hoshangabad (Madhya Pradesh) caters to the requirement of Currency and Bank Note paper and other security papers.

EXPENDITURE

The Department of Expenditure comprises seven main divisions, namely :

(i) Establishment Division; (ii) Plan Finance Division (iii) Finance Commission Division; (iv) Controller General of Accounts; (v) Cost Accounts Branch; (vi) Staff Inspection Unit; and (vii) Integrated Finance Division.

ESTABLISHMENT DIVISION

Establishment Division is the nerve centre for the entire gamut of the service conditions of the Central Government employees having financial content. Basically, these include revision/prescription of pay scales, fixation of pay and various allowances. The proposals received from various Ministries/Departments of the Government of India seeking clarification in regard to revision and prescription of pay scales, increments, deputation allowance and cadre review of various categories of posts are examined in this Division keeping in view the equity and comparable relativities and duties.

EXPENDITURE REFORMS COMMISSION

An Expenditure Reforms Commission was set up on 28 February 2000 under the Chairmanship of K.P. Geethakrishnan, former Finance Secretary, to review the entire gamut of expenditure profile of the Central Government with a view to suggesting ways and means to reduce and phase out non-warranted areas of expenditure. The terms of reference of the Commission are as follows : (i) To foster convergence and avoiding overlap in the functions of different Central Government Ministries, Departments and attached organisations and the role of the State governments, suggest roadmap for reducing the functions, activities and administrative structure of the Central Government; (ii) To review the framework of all subsidies, examine the economic rationale for its continuance and suggest measures for maximising their impact; (iii) To review the framework for determination of user charges of Departmental and commercial entities and suggest strategy for cost recovery through user charges; (iv) To review the adequacy of staffing under Central Ministries, attached offices and institutions and suggest measures for rationalising the staff and cadres of different services.

NATIONAL INSTITUTE OF FINANCIAL MANAGEMENT

The National Institute of Financial Management has been set up as an autonomous body under the administrative control of the Department of Expenditure. The Institute provides training in conventional subjects to probationers and serving Class-I officers of the Central Accounts Service. It also provides two years Post-Graduate Diploma in Financial Management for officers of the Central Services, All India Services, State Services, PSUs, Financial Institutions as well as participants from private and corporate sector.

PLAN FINANCE

Plan Finance-I Division handles matters relating to States' finances and financing of States' Annual Plans. It releases Central assistance to States for their Annual Plans including the assistance for externally aided projects, Hill Areas/Western Ghats Development Programmes, Border Areas Development Programmes, Accelerated Irrigation Benefit Programme, Accelerated Power Development Programme, Central Assistance for Non-lapsable Pool of Resources constituted for the development of North-East and Sikkim and additional Central assistance for other specific schemes/projects of the States.

Besides releasing the Plan assistance to States, the Division also releases Non-Plan Revenue Deficit Grants, Centre's share for the Calamity Relief Fund (CRF) and Central assistance from the National Calamity Contingency Fund recommended by the Eleventh Finance Commission.

As per the guidelines of the scheme for constitution and administration of National Calamity Contingency Fund (NCCF), natural calamities of cyclone, drought, earthquake, fire, flood and hailstorm considered to be of severe nature requiring expenditure by the State government in excess of balances available in its own Calamity Relief Fund will qualify for relief assistance from NCCF. The assistance from NCCF would be only for immediate relief and rehabilitation.

During the year 2000-01 an assistance amounting to Rs 924.21 crore was released to States from NCCF and Rs 1,430.74 crore as Centre's share of contribution to CRF. An amount of Rs 8,630.70 crore was also released to States during 2000-01 as Non-Plan Revenue Deficit Grant.

Plan Finance-II Division deals with matters relating to the Central Plan. These cover the estimates of resources for Central Plan including internal and extra budgetary resources, plan outlays of different Ministries/Departments of the Central Government, appraisal of Plan projects/schemes before they are submitted to Public Investment Board (PIB)/Expenditure Finance Committee (EFC), etc. Plan Finance-II is also the Secretariat of the PIB. The PIB considers investment proposals of the Central Government Ministries in regard to their Public Sector Undertakings. Under the revised guidelines, Central Sector Projects costing Rs 100 crore and above are considered by PIB. Secretary (Expenditure) is the Chairman of the PIB and Joint Secretary (Plan Finance-II) acts as the Secretary to the Board. From January to December 2000, 25 projects were considered of which 24 projects with a total capital cost of Rs 23,495.01 crore were recommended by the PIB.

FINANCE COMMISSION DIVISION

Finance Commission Division undertakes processing of and follow up action on the various recommendations and suggestions of Finance Commissions' reports including issue of Presidential/Executive Orders and sanctions. Under Article 280 of the Constitution, a Finance Commission is to be constituted every fifth year or at such earlier time as the President considers necessary. It makes recommendations to the President on specified aspects of Centre-State Fiscal relations. The recommendations of the Commission together with an Explanatory Memorandum as to the action taken thereon, are laid before each House of Parliament. Conventionally, the Government of India has accepted the recommendations of the various Finance Commissions in the past without modifications. Eleven Finance Commissions have been constituted so far.

The Eleventh Finance Commission (EFC) submitted an interim report on 15 January 2000 making provisional arrangements for the period 2000-01, which was accepted by the Government. The main report was submitted on 7 July 2000. However, as per additional terms of reference, EFC was asked to evolve a monitorable fiscal reforms programme for which two months extension beyond 30 June 2000 was given to EFC. EFC submitted its reports on additional terms of reference on 31 August 2000. EFC's main report and its reports on additional terms of reference were also accepted by the Government and tabled on both Houses of Parliament on 27 July 2000 and 19 December 2000 respectively.

Pursuant to the recommendation of the Eleventh Finance Commission and to monitor the fiscal reforms programme for all States, a Monitoring Committee has been constituted side by side with the creation of an Incentive Fund linked to fiscal performance of the States during the award period of EFC. Further, a Fiscal Reforms Cell/ Unit in the Finance Commission Division has been set up to serve as the single window Secretariat for the Fiscal Reform

Programme as well as any other supplementary facility that may be extended to States from time to time, including, *inter alia*, facilities from multilending agencies. In this context, the Fiscal Reform Cell/Unit in this Division has issued guidelines for the States' Fiscal Reform Facility (2000-01 to 2004-05). Each State is now expected to draw up the Medium-Term Fiscal Reform Programme (MTRFP), dovetailing the time-bound action programme and projected improvements in their respective revenue balances before entering into a fresh Memorandum of Understanding with the Government of India and also be eligible for its share of the Incentive Fund.

Under Eleventh Finance Commission recommendations for 2000-05, Rs 774.55 crore under upgradation and special problem grant has been released so far. Under the local bodies grant, a total amount of Rs 1,522.16 crore has been released to the States. Under non-plan revenue deficit grant, a sum of Rs 10,186.46 crore has been released to the concerned States so far.

For the Tenth Finance Commission Award period 1995-2000, Rs 1,876.18 crore has been released to the States under upgradation and special problems grants and Rs 4,410.25 crore under the local body grants. Further, Rs 81.38 crore was released to States during 2000-01 for completion of Tenth Finance Commission's ongoing capital works under upgradation and special problem grant.

STAFF INSPECTION UNIT

The Staff Inspection Unit (SIU) was set up in 1964 with the objective of securing economy in staff consistent with administrative efficiency and evolving performance standards and work norms. Where the SIU in the course of its work-measurement studies comes across procedures and methods whose revision or modification seems patently necessary and is likely to lead to economy in staff, it incorporates suitable recommendations in its reports. However, items requiring detailed methods study are brought to the notice of Department of Administrative Reforms and Public Grievances for further necessary action. SIU's reports are mandatory and have to be implemented *in toto* within a specified time frame.

CONTROLLER GENERAL OF ACCOUNTS

The Controller General of Accounts (CGA) is the apex accounting authority of the Central Government exercising the powers of the President under Article 150 of the Constitution for prescribing the form of accounts of the Union and State governments on the advice of Comptroller and Auditor General of India.

The Controller General of Accounts is responsible, *inter alia*, for: (i) General principles of Government accounting relating to Union and State governments and form of accounts, and to frame or revise rules and manuals relating thereto; (ii) Reconciliation of cash balances of Union Government with Reserve Bank in general and, in particular, of Reserve Bank Deposits pertaining to Civil Ministries or Departments; (iii) Overseeing the maintenance of adequate standards of accounting by Central Civil Accounts Offices;

(iv) Consolidation of monthly accounts, preparation of review of trends of revenue realisation and significant features of expenditure, etc., and preparation of annual accounts (including Summary Civil Appropriation Accounts) showing under the respective heads, the annual receipts and disbursements for the purpose of Union Government; (v) Administration of Central Treasury Rules; (vi) Co-ordination and assistance in the introduction of management accounting system in Civil Ministries or Departments; (vii) Cadre Management of Group 'A' (Indian Civil Accounts Service) and Group 'B' Officers of the Central Accounts Offices; and (viii) Organising of training and examination for the Central Civil Accounts Staff belonging to Group 'C' and 'D'.

The office of the CGA is responsible for monthly consolidation of Union Government accounts. A detailed analysis of the monthly trends of receipts, payments, fiscal deficit and its sources of financing is presented to the Finance Minister every month. The accounting data is also released every month on the Internet. The data can be accessed at the website, <http://cga.nic.in>.

The CGA's office also prepares provisional accounts of the Government within two months of the completion of the financial year. Provisional Accounts for the year 1999-2000 had an accuracy level of over 98 per cent, when compared with the final audited accounts.

For imparting intensive induction and in-service training in accounting, budgeting, financial management, expenditure control, internal audit and administrative-cum-establishment matters, an Institute of Government Accounts and Finance (INGAF) was set up in February 1992 in Delhi. It also imparts professional and induction-level training to the officers of Indian Civil Accounts Service. It has regional training centres at Kolkata, Chennai and Navi Mumbai.

COST ACCOUNTS BRANCH

Cost Accounts Branch's function is to advise the Ministries and Government Undertakings on cost accounts matters and attending to cost investigation work on their behalf. Cost Accounts Branch conducts cost/price and techno-economic studies leading to fixation of prices of products/services; investment appraisal; cost analysis for decision making; valuation of shares/assets and liabilities and other related aspects; determination of subsidies; installation of cost accounting systems; settlement of pricing/costing disputes between two Government Departments/Undertakings and tariff related studies.

The Branch is manned by officers who are professionally qualified Cost/Chartered Accountants and members of the Indian Cost Accounts Service (ICAS). The needs of other Ministries—Industry, Commerce, Company Affairs, Food, Defence, Economic Affairs, Petroleum and Natural Gas, Revenue (Central Excise), etc., are also met by posting ICAS officers to these Ministries on participating basis. The Branch is headed by Chief Adviser (Cost) who also advises the Department of Expenditure in matters relating to cadre administration of the ICAS.

NON-RESIDENT INDIAN INVESTMENTS

Recognising the investment potential of the Non-resident Indians a number of steps have been taken by the Government to attract investments from them in Indian companies. NRI investment policy covers Non-resident Indians (NRIs), Persons of Indian Origin (PIOs) and Overseas Corporate Bodies (OCBs) predominantly owned by NRIs *i.e.*, holding of 60 per cent and above. Some of the investment schemes presently available to Non-resident Indians (NRIs) are : (a) the facility to invest with full benefits of repatriation of capital invested and income accruing thereon under automatic approval subject to the specified exceptions; (b) higher foreign direct investment in sectors having sectoral caps such as Domestic Air Transport Services and private sector banks; and (c) 100 per cent investment in export oriented units, sick units under revival, housing and real estate development companies, etc.

POLICY INITIATIVES/LIBERALISATION TO ATTRACT NRI INVESTMENTS

(a) Revision in portfolio investment ceiling: (i) The individual portfolio investment by NRIs in a company through the secondary market increased from 1 per cent to 5 per cent; (ii) The aggregate portfolio investments through secondary market by all NRIs/PIOs/OCBs increased from 5 per cent to 10 per cent in a company; and (iii) The aggregate portfolio investment limit of 10 per cent by all NRIs/PIOs/OCBs will be exclusive and separate from FIIs to avoid crowding out of NRIs by FIIs; (b) The two stage RBI approval mechanism in the case of allotment in a primary issue has been substituted with general permission; (c) In respect of all schemes falling under the RBI approval mechanism, RBI have granted general permission whereby the Indian companies may issue equity shares/convertible debentures to NRIs/PIOs/OCBs without prior approval of RBI subject to specified conditions and reporting within 30 days; and (d) Simplification of procedure for extension of validity of approval in the case of portfolio investment by NRIs/PIOs/OCBs; and (e) RBI general permission granted through designated banks to NRIs/PIOs/OCBs for secondary market transactions is valid for five years. The power for renewal, which originally rested with RBI, has been delegated to the designated banks thereby reducing the time lag involved in renewal of approvals.

FOREIGN CAPITAL MOBILISATION THROUGH EURO ISSUES(ADRs/GDRs/FCCBs)

A scheme was initiated during 1992/1993 to allow the Indian Corporate Sector to have access to the Global Capital Markets through issue of Foreign Currency Convertible Bonds (FCCBs)/Equity Shares under the Global depository mechanism.

Under this scheme, Companies with consistent track record of good performance (financial or otherwise) for a minimum period of three years were entitled to access international capital market. The three-year track record requirement had been relaxed for companies making Euro issues for

financing projects in the infrastructure sector like power generation, telecommunications, petroleum exploration and refining, ports, airports, roads.

Euro issues by companies to finance activities that are predominantly within Annexure III of the New Industrial Policy with GDR equity holding within 51 per cent were considered and cleared by the Department of Economic Affairs. For cases involving funding of activities outside Annexure III and also where foreign equity holding after the GDR issue is likely to exceed 51 per cent required FIPB approval after an in principle approval by DEA.

Liberalisation in the guidelines have been announced in a phased manner from time to time.

Recent Policy Initiatives/Liberalisation: (i) Permission to unlisted companies to float Euro issues; (ii) Withdrawal of the stipulation limiting the validity period of 90 days for final approval for ADR/GDRs in order to provide greater flexibility to the issuing company in timing the ADR/GDR issue; (iii) No restriction on deployment of ADR/GDR issue proceeds except for the ban on investment in stock market and real estate; (iv) Permission to Information Technology Sector companies to issue ADR/GDR linked stock option to their employees; and (v) Permission to issue ADRs/GDRs as a consequence of business reorganisation/merger/demerger.

Cases not conforming to the requirements for automatic route would require consideration by the Special Composite Committee on overseas business acquisition through ADR/GDR Stock-swap.

ADRs/GDRs once converted into underlying shares are not eligible for reconversion into ADRs/GDRs.

Initiatives 2001-2002: (a) As a follow-up of the Budget announcement 2001-2002 Indian companies have been permitted to list in foreign stock exchanges by sponsoring ADR/GDR issues with overseas depository against shares held by its shareholders subject to prescribed conditions; (b) All companies who have made an ADR/GDR issue earlier and listed abroad have been permitted the facility of overseas business acquisition through ADR/GDR stock swap under the automatic route subject to conditions that include adherence to FDI policy and the value limit for the transaction not to exceed \$ 100 million or 10 times the export earnings during the preceding financial year; (c) The modalities for operationalising the facility for limited two way fungibility for Indian ADRs/GDRs announced by the FM in the Budget 2001-2002 are being worked out in consultation with SEBI and RBI; and (d) Tax provision: Section 115 AC of the Indian Income Tax Act: (i) Long Term capital gains - 10 per cent; (ii) Short terms capital gains - normal rates; (iii) Interest Income (FCCBs - till conversion into equity) - 10 per cent; (iv) Double Taxation Avoidance Agreement Provision will extend where applicable and (v) Indian corporates have successfully launched about 106 Euro issues in the international markets so far (till June 2001), raising more than US \$ 10 Billion.

PORTFOLIO INVESTMENTS BY FOREIGN INSTITUTIONAL INVESTORS

Regular FIIs : A scheme for attracting portfolio from Foreign Institutional Investors (FIIs) has been operational since September 1992. Under this scheme, FIIs including institutions such as Pension Funds, Mutual Funds, Investment Trusts, Asset Management Companies, Nominee Companies and Incorporated/Institutional Portfolio Managers or their power of attorney holders are allowed to invest in all the securities traded on the primary and secondary markets as also in unlisted companies. Such securities would include shares, debentures and warrants issued by companies which are listed/to be listed on the Stock Exchanges in India and the schemes floated by domestic mutual funds.

In the case of regular FIIs, while there are no restrictions on the volume of investments by the FIIs and no lock-in periods for investments made by the FIIs, portfolio investments in a company is subject to investment limits.

Debt Fund FIIs : The Government, during 1996-97, had permitted investments exclusively in debt securities by the specified category of Foreign Institutional Investors(FIIs), viz., 100 per cent Debt Fund FIIs conforming to the SEBI registration and regulatory requirement for such category of investors. FIIs who register themselves as Debt Funds with SEBI are permitted to make 100 per cent of their investments in Debt securities of Indian companies. Investment by FIIs in debt securities through the 100 per cent route are permitted without any restriction on maturity of the debt securities invested in or any limit on investment in the debt securities of any particular issue.

100 per cent Debt Fund FIIs are permitted to invest in dated Government Securities including Treasury Bills within the framework of guidelines on FII investment in debt instruments for 100 per cent debt funds. Investments by 100 per cent Debt Fund FIIs are subject to an annual cap on such investments within the overall external commercial borrowing cap for the year. Further, apart from the Debt Fund FIIs, the regular FIIs have also been permitted to invest in dated Government securities including Treasury Bills as part of the 30 per cent non-equity route subject to the applicable sub-ceiling for investments in debt instruments.

As part of the relaxations announced in 1998-99, debt fund FIIs have been permitted to invest in unlisted debt instruments also.

Recent Policy Initiatives/Liberalisation under Portfolio Investments norms by Foreign Institutional Investors : (a) 100 per cent Debt Fund FIIs permitted to invest in unlisted debt securities also apart from the listed debt securities; Simplification in registration requirement of sub-accounts of FIIs; (b)Participation by Foreign Institutional Investors in open offers for takeovers made in terms of the SEBI Regulations, 1997; (c) Investments in derivative instruments traded on a stock exchange without the requirement of taking and giving delivery of underlying securities; (d) Hedging of foreign exchange risk permitted through purchase of forward cover on incremental equity investments.

Recent Policy Initiatives : Expansion in the Foreign Institutional Investors category, permitting the following categories of investors and arrangements to invest through the FII portfolio investment route (approved by Government but to be operationalised by SEBI): (a) to permit foreign corporates and high net worth individuals to invest through SEBI registered FIIs. Such investments will be subject to a sub-limit of 5 per cent within the aggregate limit for FII portfolio investments of 24 per cent in a single company; and (b) to permit SEBI registered domestic fund managers to manage foreign funds for investment in the Indian capital market through the portfolio investment route provided the funds are channeled through internationally recognised financial institutions and subject to the reporting requirements as applicable to FIIs.

Enhancement in the aggregate portfolio investment limits by FIIs through special procedure. Requisite Press Note issued on 8 March 2001 whereby Indian companies would be permitted to raise the aggregate ceiling for FII portfolio investments from the normal level of 24 per cent to 49 per cent of the issued and paid up capital of an Indian company subject to : (a) Approval by the Board of Directors of the Company to the enhanced limit up to 49 per cent; and (b) A Special Resolution passed by the General Body of the Company approving the enhanced limit up to 49 per cent.

Cumulative Net Investments by all FIIs as reported by SEBI had been \$ 14.216 billion up to June 2001.

EXTERNAL COMMERCIAL BORROWINGS

External Commercial Borrowings (ECBs) are being permitted by the Government for providing an additional source of funds to Indian corporates and PSUs for financing expansion of existing capacity and as well as for fresh investment, to augment the resources available domestically.

The important aspect of ECB policy is to provide flexibility in borrowings by Indian corporates, at the same time maintaining prudent limits for total external borrowings. The guiding principles for ECB Policy are to keep maturities long, costs low, and encourage infrastructure and export sector financing which are crucial for overall growth of the economy.

REVENUE

The Department of Revenue exercises control in respect of revenue matters relating to the direct and indirect Union taxes through two statutory Boards, namely, Central Board of Direct Taxes and the Central Board of Excise and Customs. The Department is also entrusted with the administration and enforcement of controls and regulatory measures provided in the enactments concerning central sales tax, stamp duties, forfeiture of properties of smugglers and foreign exchange manipulators, and other fiscal statutes. Control over production and disposal of opium and its products is also vested with this Department.

DIRECT TAXES

The Income Tax Department administers a number of Direct Tax Acts, namely,

the Income Tax Act, 1961, the Wealth Tax Act 1957, the Gift Tax Act, 1958, Interest Tax Act, and the Expenditure Tax Act, 1987. Table 13.5 gives figures of revenue collection under various major direct taxes from 1996-97 onwards.

TABLE 13.5 : DIRECT TAXES

Taxes	Amount of Revenue collected				(Rs in crore)
	1996-97	1997-98	1998-99	1999-2000	2000-2001 ¹
Corporation Tax	18,567	20,016	24,529	30,692	35,656
Income Tax	18,234	17,101	20,240	25,296	31,598
Interest Tax	1,712	1,205	1,264	1,212	406
Wealth Tax	76	113	162	133	129
Gift Tax	10	9	10	-3	1
Expenditure Tax	293	9,834	395	272	297

¹ Provisional

MAJOR CHANGES IN BUDGET 2001-2002 ON DIRECT TAXES

New legislation relating to direct taxes for financial year 2001-2002 are contained in the Finance Act, 2001. Some of the significant provisions of Finance Act, 2001 are : (1) Stability in tax rates has been continued with no changes in rates of personal or corporate tax. The maximum marginal tax rate in the case of co-operative societies and has, however, been reduced to 30 per cent from 35 per cent. Income tax exemption limit remains unchanged at Rs 50,000. Surcharge at the rate of 2 per cent is leviable on all non-corporate and corporate assesses except for foreign companies; (2) Higher standard deduction in case of salaried employees (33-1/2 per cent or Rs 30,000 on income up to Rs 1,50,000; for Rs 1,50,000 to Rs three lakh, a deduction of Rs 25,000; for Rs three lakh to Rs five lakh, a deduction of Rs 20,000) has been allowed; (3) Higher tax rebate allowed under section 88 to those in receipt of salary up to Rs 1,00,000; (4) Commissioner (Appeals) shall not set aside assessment or refer case back to Assessing Officer; (5) Stay granted by Tribunal to cease to operate if appeal is not disposed of within 6 months of stay order; (6) Long Term Capital gains on securities and units exempt if re-invested in primary issues; (7) Long-term capital gains exempt if invested in bonds of Rural Electrification Corporation in addition to NABARD and NHAI; (8) Interest payable on housing loans for self-occupied houses deductible up to Rs 1,50,000 as against existing Rs 1,00,000; (9) Time limits for issue of refunds, re-assessment, rectification and reopening of assessments reduced; (10) Requirement of obtaining tax clearance certificate u/s. 230A from Assessing Officer before transfer of immovable property deleted; (11) Provisions relating to computation of house property income rationalised and made user friendly standard deduction raised from 25 per cent to 30 per cent; (12) "Block period" for assessment in search cases reduced to six years as against 10 years at present; (13) Discretion in deciding quantum of certain penalties removed

and reasonable amounts of penalty fixed; (14) Due dates for filing returns rationalized and made 31 July for non-corporates, and 31 October for corporates and non-corporates who are required to get their accounts audited and for persons under one-by-six scheme; (15) Specified date for tax audit rationalised and made 31 October; (16) "Books of account" and "documents" defined in line with the Information Technology Act; (17) Definition of "industrial undertaking" provided for purposes of carry forward of loss, etc., in amalgamation; (18) Compensation received on compulsory acquisition of land, etc., and invested in bonds specified in section 54EC, exempt if investment is made within six months of date of receipt of compensation (not from the date of transfer); (19) Filing fees for revision application to Commissioner increased from Rs 25 to Rs 500; (20) Transfer of assets in a scheme of de-mutualisation of a stock exchange shall not be liable to capital gains taxes, subject to certain conditions; (21) One-by-six scheme extended to all urban areas as per 1991 census; (22) Persons deducting or collecting tax at source to quote PAN of persons from whose income tax is deducted/collected; (23) All companies to file return of income even if they incur a loss; (24) Concession under section 80IA for development of infrastructure rationalized and enlarged; (25) 10 year tax holiday (out of initial 20 years) for roads, toll roads, highways, rail systems, water supply project, water treatment system, sanitation and sewerage, etc; (26) 10 year tax holiday (out of initial 15 years) for airport, port, inland port or waterways, industrial park, generation and distribution of power; (27) Period of commencement of business for tax holiday extended to 31 March 2006 for industrial parks and power; (28) Exemption provided to income of funds, which invest in development of Special Economic Zones (SEZ) as in the case of industrial parks; (29) Deduction u/s 80IA extended to enterprises developing SEZs, on lines as available to industrial parks; (30) Five year tax holiday and 30 per cent deduction for the next five years (out of initial 15 years), which was available till 31 March 2000 for specified telecom services reintroduced retrospectively for units commencing operations on or before 31 March 2003; (31) Fiscal concessions as above extended to Internet service providers and laying of broadband networks; (32) Income from onsite services eligible software export for purposes of deduction under section 10A/10B; (33) Restriction on transfer of ownership u/s 10A and 10B removed in case of public limited companies; (34) Manufacture or processing of computer programmes u/s 10B to include data processing and data management retrospectively; (35) 100 per cent deduction to donations to National Trust for welfare of persons with autism, cerebral palsy, mental retardation and multiple disabilities; (36) Value of perquisites to be determined on the basis of cost to employer (except for car and housing); (37) Stock Option Plan or Schemes to be on the basis of guidelines to be issued by the Central Government; (38) Weighted deduction at the rate of 150 per cent has been allowed for R&D expenditure for biotechnology; (39) Expenditure incurred on clinical trials, regulatory approvals and filing of patents also allowed weighted deduction at the rate of 150 per cent; (40) Contribution to persons

approved by Principal Scientific Adviser to the Government of India for scientific research in approved programmes allowed weighted deduction at the rate of 12 per cent; (41) Tax incentive available for the tea industry has been enhanced from 20 per cent to 40 per cent; (42) Depreciation on ships and inland water vessels increased to 25 per cent as against 20 per cent/10 per cent. Plant and machinery purchased under the Technology Upgradation Fund Scheme has been allowed depreciation at an enhanced rate of 50 per cent for three years; (43) Depreciation on new commercial vehicles allowed at enhanced rate of 50 per cent for one year; (44) Depreciation on imported motor cars allowed; (45) Limit of eight years for carry forwards of depreciation deleted and claim of depreciation made mandatory; (46) Power to withhold refund withdrawn; (47) Rates of interest chargeable from assesses and payable to assesseees rationalized to 15 and 9 per cent per annum respectively; (48) Tax audit to be carried out by Chartered Accountants only; (49) Rate of tax deduction at source on windfall income from lotteries, games, etc., reduced to 30 per cent from 40 per cent; (50) Tax to be deducted at source on winning from game shows on television and electronic media and on lotteries by way of advertisement schemes; (51) TDS exemption limit for interest on bank deposits reduced to Rs 5,000 as against the existing limit of Rs 10,000; (52) Expenditure on account of compensation under VRS to be spread over 5 years; (53) Exemption of tax on income withdrawn for NABARD, National Housing Bank and SIDBI; (54) Dividend and Mutual Fund Distribution Tax reduced from 20 per cent to 10 per cent; (55) Charitable and religious trusts and educational institutions having income above Rs one crore to publish their accounts in local newspaper for claiming exemption, etc.

COMBATING TAX EVASION

The Income Tax Department is taking necessary legislative and administrative steps from time to time to curb/control black money and is also striving to check tax evasion and accumulation of unaccounted wealth. In pursuance of this objective, systematic surveys, search and seizure operations, verification of information by Central Information Branches in a planned manner and scrutiny of selected cases, are undertaken. Persons found to be indulging in tax evasion are dealt with severely, by imposing penalties and by launching prosecution proceedings against them. Results achieved in searches and surveys and statistics for prosecution launched since 1994-95 are as under:

SEARCHES

Year	No. of searches	Value of assets seized (Rs in crore)	Amount of concealed income surrendered (Rs in crore)
1994-95	4,830	381.42	577.08
1995-96	4,612	458.14	Not applicable in view of change in law.

1996-97	4,299	405.63	-do-
1997-98	3,653	306.85	-do-
1998-99	5,740	300.54	-do-
1999-2000	5,670	412.85	-do-
2000-2001	5,321	512.36	-do-

SURVEYS

Year	No. of premises surveyed	No. of new assessees added
1994-95	7,92,006	15,16,721
1995-96	7,83,295	13,16,764
1996-97	8,18,982	16,58,302
1997-98	4,59,741	23,78,194
1998-98	1,95,136	38,56,469
1999-2000	1,24,388	30,52,034
2000-2001	88,245	32,29,975

STATISTICS FOR PROSECUTION

Year	No. of prosecution launched	No. of proceedings decided	No. of conviction	No. of proceedings compounded	No. of acquittal
1994-95	792	2,130	127	1,379	624
1995-96	288	2,158	79	1,592	487
1996-97	393	1,300	20	643	637
1997-98	801	1,239	93	143	1,003
1998-99	184	668	77	184	407
1999-2000	343	1,607	14	128	1,465
2000-2001	228	678	17	254	22

INDIRECT TAXES

Customs and Union Excise are two major sources of the Central Government tax revenue. The revenue from customs duties during 1999-2000 was Rs 48,334 crore and the collection for 2000-2001 was Rs 47,620 crore (provisional). The following table gives figures of revenue collection under the major indirect taxes from 1994-95 onwards.

Taxes	Amount of Revenue collected						(Rs in crore)
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 (Provisional)
Customs	26,683	35,502	42,890	40,537	41,278	48,334	47,620
Excise ¹	37,615	40,784	45,141	48,070	52,703	62,025	68,242

¹ excluding cesses administrated by other departments.

Major changes introduced in the Budget 2001-2002 on customs tariffs are: The existing four *ad valorem* rates of 5 per cent, 15 per cent, 25 per cent and 35 per cent during 2000-2001 have been continued during 2001-2002. However, to achieve greater tariff reforms and to bring about a more rational and simplified tax structure, the surcharge of 10 per cent has been discontinued from this financial year. With this, peak level of Customs duty has declined from 38.5 per cent to 35 per cent.

Basic customs duty has been raised from 35 per cent to 70 per cent on tea, coffee, copra and coconut and desicated coconut. Similarly, Customs Duty has been raised to 75 per cent on crude edible oils and 85 per cent on refined oils. However, a lower rate of 45 per cent would be applied to soyabean oil on account of WTO binding.

To encourage growth of Information Technology (IT) sector and reduce prices of IT products, duty on specified IT and telecom products has been reduced to 15 per cent. These products are : line telephone sets with cordless handsets, fax machines, teleprinters and telephonic or telegraphic switching equipment and set top boxes, word processing machines, calculating machines, accounting machines, automatic teller machines (ATM) and their specified parts, static converters for automatic data processing machines, inductors for power supplies for automatic data processing machines and telecommunication apparatus including their specified parts, certain types of capacitors, unrecorded magnetic tapes, digital still image video cameras, electronic and electromechanical switches, and specified photo-copying apparatus. However, concessional rate of 5 per cent customs duty is admissible on specified equipment and parts thereof for basic telephone, cellular, radio paging, V-SAT, PMRTS and internet services extended up to 31 March 2002.

To help textile industry, custom duty on 159 specified textile machines has been reduced to 5 per cent. Duty has also been reduced on DMT, PTA, MEG and Caprolactum from 25 per cent to 20 per cent, silk waste from 35 per cent to 25 per cent, cotton waste, from 25 per cent to 15 per cent, flax fiber from 25 per cent to 15 per cent and on polyester and nylon chips from 35 per cent to 25 per cent.

Also, customs duty has been reduced on following commodities : parts of pens and components from 35 per cent to 15 per cent; sub-assemblies for ATM from 35 per cent to 15 per cent; glass capillary tubes for the

thermometers from 35 per cent to 25 per cent; dead brunt Magnesite (high purity), fused magnesia and sea water magnesia, from 25 per cent to 15 per cent; cement and clinkers, from 35 per cent to 25 per cent; Soda ash from 35 per cent to 20 per cent; lamps and lighting fittings for use in sports/games stadia, if imported by recognised sports federations or associations, from 35 per cent to 15 per cent; Cut and polished coloured gem stones from 35 per cent to 15 per cent; Duty on equipment imported by specified training institute, sponsored by Gem and Jewellery Export Promotion Council has been reduced from 25 per cent to 15 per cent.

Customs duty of 15 per cent has been imposed on enaxoparin. Customs duty on import of second hand cars, multi utility vehicles and two wheelers has been raised to 105 per cent after lifting of quantitative restrictions from 1 April 2001. To curtail smuggling of gold, customs duty has been reduced from Rs 400 per ten gm to Rs 250 per ten gm. Customs duty on seconds and defective HR coils has been raised from 25 per cent to 35 per cent. To encourage pollution control measures, customs duty on LPG conversion kits and their parts has been reduced from 25 per cent to 5 per cent. Customs duty on specified cinematographic cameras and equipment has been reduced from 25 per cent to 15 per cent.

To phase out exemptions in a phased manner, a nominal duty of 5 per cent (without special additional duty SAD) has been imposed on a few items.

Liquefied Natural Gas (LNG) and wattle extract have been exempted from the Additional duty of Customs (CVD). Concessional rate of 5 per cent has now been extended to specified parts of wind operated electricity generators (WOEG) for maintenance. Customs duty of 3 per cent has been imposed on aeroplanes, simulators of aeroplanes, helicopters and gliders.

Legal provisions have been made for charging additional duty of customs (CVD) on consumer goods on MRP basis, wherever similar domestically produced goods are charged to excise duty on such basis.

Sections 8-B & 9-A of Customs Tariff Act have been amended and provisions made to exempt anti-dumping duty or safeguard duty on goods imported by 100 per cent export-oriented units, units in Free Trade Zones or in the Special Economic Zones. Provision has also been made for exemption from safeguard duty on Tariff Rate Quota (TRQ) basis.

Major changes introduced in the Budget 2001-2002 relating to excise duty are : To achieve major simplification in the rate structure and to reduce disputes and litigation, the excise duty structure has been rationalised to a single rate 16 per cent CENVAT (with only four exceptions). Also, the special excise duty (SED) rates of 8 per cent, 16 per cent and 24 per cent have been reduced to a single rate of 16 per cent. An additional levy called National Calamity Contingent Duty (NC duty) has been imposed on cigarettes, *pan masala*, *bidis* and other tobacco products to generate funds for calamity relief.

To give boost to processed food industry, excise duty on processed food

products based on fruits and vegetables (jams, jellies, soups, souces, ketchups, etc.) have been exempted.

Items that were earlier charged at concessional rate of 8 per cent, will now attract 16 per cent CENVAT. Items are laundry soap, woollen yarn, shoddy yarn, wool tops, viscose yarn if supplied to handlooms, flax or ramie yarn, and biscuits of MRP not exceeding Rs five and weight not exceeding 100 gram. Items that earlier attracted 24 per cent excise duty like glazed tiles and vitrified tiles, scooter and motor cycles, taxis, mattresses and articles of bedding, carpets and textile floor covering, painted canvas, studio back-cloths or the like, linoleum, textiles wall covering, etc., will now be charged at 16 per cent CENVAT. Duty has been increased from 24 per cent to 32 per cent on white cement and other special cements, yachts and pleasure boats, arms and ammunition, manufactures of furskin and artificial fur.

Excise duty has been reduced from 40 per cent to 32 per cent on aerated soft drinks, soft drinks concentrates if supplied to vending machines, and on motor cars. Excise duty on motor spirit (petrol) has been raised from 16 per cent to 32 per cent, and on high speed diesel oil from 12 per cent to 16 per cent. Also, excise duty has been imposed on compressed natural gas (CNG) at the rate of 8 per cent.

Duty on woollen fabrics has been revised from 21 per cent (16 per cent CENVAT + 5 per cent AED) to 16 per cent (8 per cent CENVAT+ 8 per cent AED). Exemption from duty has been withdrawn on carton, boxes, containers and cases of corrugated paper or paperboard and they will now attract a normal 16 per cent CENVAT.

16 per cent CENVAT has been imposed on ready-made garments. Independent textile processors will now be subjected to *ad-valorem* duty of 16 per cent in place of existing system of chamber based compounded duty, with deemed CENVAT credit on inputs.

MRP based assessment of excise duty has been extended to stainers, filters and putties and thinners. Extent of abatement has been modified in respect of T.V. sets, electric fans, glazed/vertified tiles and aerated water. As a measure of widening of tax base, excise duty at the rate of 4 per cent (without CENVAT credit) has been imposed on tooth brushes, imitation jewellery, powered goggles, table and kitchenware of glass, rubberised coir mattresses, black and white T.V. sets, watches and clocks up to Rs 500 per piece and parts, electric bulbs up to Rs 20 per piece, footwear up to Rs 125 per pair and candles.

Changes in SSI Schemes : Ball or roller bearings, cotton yarn and arms and ammunition, have been excluded from SSI exemption scheme. The SSI exemption scheme has now been extended to woven pile fabrics and chenille yarn.

Central excise rules have been simplified. Normal time for filing of appeals to Commissioner (Appeals) or to the Tribunal has been reduced from three months to 60 days.

SERVICE TAX

The coverage of service tax has been extended to fifteen new services. These are : scientific consulting services, photography services, convention services, telex services, telegraph services, facsimile (FAX) services, on-line information and database access and/or retrieval services, video tape production services, sound recording services, broadcasting services (radio and television), services auxiliary to insurance (including broking and agency services), banking and other financial services (excluding insurance), port services, authorised service stations for service or repair of vehicles, including two-wheelers. The total number of services covered so far is 41.

ANTI-SMUGGLING DRIVE

The relentless drive against smuggling, tax evasion and other economic offences continued during 2000-2001. The anti-smuggling agencies along the coast, land borders, ports and at international airports maintained high degree of alert to prevent and detect smuggling of goods. Efforts were focussed on detection of commercial frauds like invoice manipulations and fraudulent exports to avail various benefits illegally. As a result thereof, contraband goods valued at Rs 743.38 crore were seized during 2000-2001. Besides several cases of customs duty evasion amounting to Rs 440.12 crore, were also detected.

SALES TAX

Sales Tax is the most important source of revenue for the States. Though Central Sales Tax Act, 1956 is a Central enactment, its administration has been entrusted by law to the State Governments who collect and retain the proceeds of tax levied on inter-State sale of goods under this Act. Total collection of Sales Tax covering State Sales Tax, Central Sales Tax, Sales Tax on motor spirit and lubricants, surcharge on Sales Tax, etc., during 2000-2001 is estimated at Rs 74,561.33 crore. Total collection of additional excise duty levied on sugar, tobacco and textiles in lieu of Sales Tax during 2000-2001 is estimated to be Rs 4,348 crore.

As a part of ongoing reforms in the system of domestic taxation, it has been widely accepted that Value Added Tax (VAT) may be introduced in lieu of sales tax, to bring about a degree of harmonisation in State-level taxation. VAT is an indirect tax on consumption. VAT is charged and collected at each stage of the production/processing/trading on the portion of the value added in the goods sold. It involves rebating tax paid on inputs/capital goods, and on account of this, it does not have any cascading effect. In a meeting of the Chief Ministers and Finance Ministers of the States held on 5 July 2001, the decision to introduce VAT in place of Sales-tax with effect from 1 April 2002 has been reiterated. However, special category States and newly formed States would have an option to introduce VAT regime by 1 April 2003.

OPIUM CULTIVATION

India is one of the licit producers and exporters of gum opium in the world market. Cultivation of opium poppy, and production and export of opium

are under the exclusive control of the Central Government. During the opium crop year 2000-2001, about 17,155 hectares was harvested under poppy cultivation in Uttar Pradesh, Madhya Pradesh and Rajasthan by 1,02,000 cultivators.

Opium Production : During this crop year, about 727 metric tonnes (provisional) of opium at 90 degree consistency (935 metric tonnes of opium at 70 degree consistency) has been procured. This year, the average yield at 70 degree consistency from Madhya Pradesh, Rajasthan and Uttar Pradesh has been 56.36, 57.11 and 45.93 kg/hectare respectively, compared to the previous year's average yield of 55.79, 53.82 and 44.76 kg/hectare respectively from the three States.

Government Opium and Alkaloid Works : The receipt of opium from the fields, its storage, custody, drying for purposes of export and other export-related operations are the main functions of Government Opium and Alkaloid Works, located at Neemuch and Ghazipur. These two units are also engaged in the production of bulk drugs like Codenine Phosphate, Morphine Sulphate, Narcotine B.P., Thebaine Papaverine, Coferine Chloride, etc., for domestic consumption. Some of these drug preparations are essential for terminally-ill cancer patients.

CORPORATE SECTOR

COMPANIES ACT

The first company legislation in India was an Act for registration of Joint Stock Companies enacted in 1850. This was followed by the Indian Companies Act, 1866 (10 of 1866), the Companies Act, 1882 (6 of 1882) and the Indian Companies Act, 1913 (7 of 1913). Under these enactments, administration of companies legislation was the responsibility of the State governments.

The Companies Act, 1956, a Central Act, currently in operation was enacted as a result of the recommendations of a committee constituted under the Chairmanship of C.H. Bhabha for company law reform. The Act provides various powers to the Central Government to monitor, regulate and control the affairs of companies. The companies have mainly to deal with: (a) the Registrars of Companies; (b) the Regional Directors to whom certain powers have been delegated by the Central Government; (c) the Central Government; (d) the winding up/ liquidation of companies are dealt with by the offices of the Official Liquidators attached to High Courts; and (e) the Company Law Board (CLB), established under the Act which has the powers to adjudicate on petitions filed under the Companies Act, 1956 or exercise such powers as have been delegated to it under Companies Act.

The Companies Act, 1956 has been amended over 19 times during its operation in the past. The amendments of 1969, 1974, 1988, 1996, 1999 and 2000 are of special importance. The latest amendment to the Act has been effected through the Companies (Amendment) Act, 2000.

Over the years a need has been felt to completely re-write the Companies Act, in the light of the modern day requirements of the corporate sector, the

aspirations of investors, globalisation of economy, liberalisation, etc. The Government set up a Working Group in August 1996 for this purpose which recommended a number of changes and also prepared a working draft of Companies Bill, 1997. The Central Government invited comments/suggestions from all concerned on this draft Bill. The Government Bill to recodify the Companies Act, 1956 was finalised after taking all comments/suggestions into consideration.

The Companies Bill, 1997 has regrouped certain provisions relating to specific subjects and deleted redundant provisions. The Bill includes provisions to remove the existing lacunae in the Act and streamlines some of the existing provisions for better working and administration of the Act. The Bill was introduced in the Rajya Sabha on 14 August 1997. At present, the Bill was referred to the Standing Committee on Home Affairs for its consideration and report to the Parliament. The Committee has since recommended the Bill to House for further action.

Since it is felt essential to bring in a few more important changes in the Companies Act, 1956 for better corporate governance and protection of investors, Companies (Second Amendment) Bill, 1999 was introduced in the Lok Sabha on 23 December 1999. The salient features of this Bill are: (i) to provide a minimum paid up capital of Rs one lakh for private company and Rs five lakh for public limited company; (ii) to reduce the period for disbursing dividend/interim dividend to shareholders from 42 days to 30 days; (iii) to provide that SEBI be entrusted with powers, with regard to all matters relating to public issues and transfers including power to prosecute defaulting companies and their directors; (iv) to provide that public listed companies with paid up capital of Rs five crore or more shall be required to set up an Audited Committee of the Board of Directors as a measure for better corporate governance; (v) to require companies with paid up capital of Rs 10 lakh or more and which do not have whole-time Secretary in their employment to submit a secretarial compliance certificate from Company Secretary in whole-time practice; (vi) to provide that any offer of shares or debentures to more than 50 persons shall be treated as public issue with suitable modification in the case of public financial institutions and non-banking financial companies; (vii) to prescribe voting through postal ballot in case of only important items with effect from such date as may be notified by the Government to ensure good corporate governance; (viii) to empower the Comptroller and Auditor General of India to appoint the auditors in respect of Government companies and also to provide that shareholders of such companies will fix their remuneration in annual general meeting; (ix) debarring (from becoming directors in other public companies for five years) the directors of public company which does not file annual accounts and annual returns continuously for three years; (x) to provide that no person can hold office of director in more than fifteen companies at a time; (xi) to provide penal provisions for increased fine for offences under the Act; (xii) to provide that a shareholder of the company be disqualified for appointment as auditor of the company; (xiii) to delete the provisions relating to managing agents, secretaries and treasurers as they have become redundant after abolition of the system of managing agent, secretaries and treasurers; (xiv) to provide that private limited companies shall be excluded in reckoning

the number of companies which an auditor can audit; and (xv) to include provisions for protecting interests of small deposit holders in a company.

The Bill has since been passed by the Parliament and Companies (Amendment) Act, 2000 has been notified and come into force from 13 December 2000.

Company Law Settlement Scheme 2000 : The Department introduced the Company Law Settlement Scheme (CLSS), 2000 which was announced on 16 May 2000 in the Parliament. 1,27,083 companies responded to the scheme and a sum of Rs 136.83 crore was collected.

Fast Track Section 560 Scheme : The Department also introduced a Fast Track Section 560 Scheme (FTS) on 28 September 2000 which was in operation till 31 January 2001. This scheme was availed off by 25,198 companies and a sum of Rs 5.18 crore was collected.

E-Corporate Business Working Group: The Department has constituted an E-Corporate Working Group on 12 July 2000, to synergise the provisions of the Companies Act, 1956 with Information Technology Act, 2000. The Working Group suggested introduction of Corporate Identification Number (CIN) which was accepted and has been introduced in November 2000. This has been designed to help easily identify companies belonging to a state, industry, ownership or age and is a 21 digit number. Working Group has also taken up study of forms under Companies (Central Government General Rules and Forms) Act, 1956 to make them condensed and computer-friendly.

COMPANIES AT WORK

5,63,140 companies limited by shares with an estimated aggregate paid-up capital of Rs 3,07,559.2 crore were at work in the country as on 31 December 2000. These comprised of 1,256 Government companies and 5,61,884 non-Government companies with paid-up capital of Rs 98,185.2 crore and Rs 2,09,374 crore respectively. The details of companies functioning as on 31 December 2000 is given in table 13.6.

TABLE 13.6 : COMPANIES AT WORK

	Government Companies		Non-Government Companies		All Companies	
	Number of companies	Estimated Paid-up Capital (Rs crore)	Number of companies	Estimated Paid-up Capital (Rs crore)	Number of companies	Estimated Paid-up Capital (Rs crore)
Public Limited Companies	646	54,044.3	75,383	1,52,216.3	76,029	2,06,260.6
Private Limited Companies	610	44,140.9	4,86,501	57,157.7	4,87,111	1,01,298.6
Total	1,256	98,185.2	5,61,884	2,09,374.4	5,63,140	3,07,559.2

NEW REGISTRATION

During 2000-2001, 27,187 companies limited by shares were registered under the Companies Act. These include 20 Government companies and 27,167 Non-Government companies. 12 companies with unlimited liability and 94 companies with liability limited by guarantee and association not for profit were also registered. Of the 27,187 companies limited by shares registered during the period, 2,179 were public limited companies with an aggregate authorised capital of Rs 24,086.04 crore and 25,008 were private limited companies with an aggregate authorised capital of Rs 8,770.63 crore.

COMPANIES WHICH CEASED TO WORK

During 2000-2001, 428 companies consisting of 113 public limited, 312 private limited and three guarantee companies went into liquidation or otherwise became defunct or ceased to work and were struck off under Section 560(5) of the Companies Act, 1956.

CAPITAL ISSUES

During the year 1999-2000, 53 non-Government non-financial public limited companies delivered copies of prospectuses under Section 60 of the Companies Act to the Registrar of Companies, for raising an amount of Rs 1,938.57 crore from the public. Of this Rs 1,561.40 crore was offered to the public, while the balance of Rs 377.17 crore was earmarked for firm allotment to promoters, directors and others. An amount of Rs 1,601.13 crore issued to the public was underwritten. During 2000-2001 (April to December 2000), 40 non-Government non-financial public limited companies delivered copies of prospectuses to the Registrar of Companies for raising an amount of Rs 1,649.43 crore (provisional) from the public.

14 Planning

PLANNING in India derives its objectives and social premises from the Directive Principles of State Policy enshrined in the Constitution. Public and private sectors are viewed as complementary. The private sector covers, besides organised industry, small-scale industries, agriculture, trade and housing, construction and related areas. Individual effort and private initiative are considered necessary and desirable in the national endeavour for development with optimum voluntary cooperation. Although in the past, economic planning did envisage a growing public sector with massive investments in basic and heavy industries, now the emphasis on the public sector is less pronounced and the current thinking on planning in the country, in general, is that it should increasingly be of an indicative nature.

The Prime Minister Shri Atal Bihari Vajpayee is the Chairman of the Planning Commission and Shri K.C.Pant, Deputy Chairman. The Members of the Planning Commission include Shri Jaswant Singh, Minister of External Affairs; Shri Yashwant Sinha, Minister of Finance; Shri Vijay Goel, Minister of State for Planning, Dr S.P.Gupta, Dr D.N.Tiwari, Shri Som Pal, Dr K.Venkatasubramaniam, Shri Kamaluddin Ahmed and Shri N.K. Singh.

FIRST PLAN

Keeping in view the large-scale import of foodgrain in 1951 and inflationary pressures on the economy, the First Plan (1951-56) accorded the highest priority to agriculture including irrigation and power projects. About 44.6 per cent of the total outlay of Rs 2, 069 crore in the public sector (later raised to Rs 2, 378 crore) was allocated for this purpose. The Plan aimed at increasing the rate of investment from five to about seven per cent of national income.

SECOND PLAN

The Second Five Year Plan (1956-57 to 1960-61) sought to promote a pattern of development, which would ultimately lead to the establishment of a socialistic pattern of society in India. Its main aims were (i) an increase of 25 per cent in the national income; (ii) rapid industrialisation with particular emphasis on the development of basic and heavy industries; (iii) large expansion of employment opportunities; and (iv) reduction of inequalities in income and wealth and a more even distribution of economic power. The Plan aimed at increasing the rate of investment from about seven per cent of the national income to 11 per cent by 1960-61. It laid special emphasis on industrialisation, increased production of iron and steel, heavy chemicals including nitrogenous fertilizers and development of heavy engineering and machine-building industry.

THIRD PLAN

The Third Plan (1961-62 to 1965-66) aimed at securing a marked advance towards self-sustaining growth. Its immediate objectives were to: (i) secure an increase in the national income of over five per cent per annum and at the same time ensure a pattern of investment which could sustain this rate of growth in the subsequent Plan periods; (ii) achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports; (iii) expand basic industries like steel, chemicals, fuel and power and establish machine-building capacity so that the requirements of further industrialisation could be met within a period of about 10 years mainly from the country's own resources; (iv) utilise fully the manpower resources of the country and ensure substantial expansion in employment opportunities; and (v) establish progressively greater equality of opportunity and bring about reduction in disparities of income and wealth and a more even distribution of economic power. The Plan aimed at increasing the national income by about 30 per cent from Rs 14,500 crore in 1960-61 to about Rs 19,000 crore by 1965-66 (at 1960-61 prices) and per capita income by about 17 per cent from Rs 330 to Rs 386 over the same period.

ANNUAL PLANS

The situation created by the Indo-Pakistan conflict in 1965, two successive years of severe drought, devaluation of the currency, general rise in prices and erosion of resources available for Plan purposes delayed the finalisation of the Fourth Five Year Plan. Instead, between 1966 and 1969, three Annual Plans were formulated within the framework of the draft outline of the Fourth Plan.

FOURTH PLAN

The Fourth Plan (1969-74) aimed at accelerating the tempo of development and reducing fluctuations in agricultural production as well as the impact of uncertainties of foreign aid. It sought to raise the standard of living through programmes designed to promote equality and social justice. The Plan laid particular emphasis on improving the condition of the less privileged and weaker sections especially through provision of employment and education. Efforts were directed towards reduction of concentration of wealth, income and economic power to promote equity.

The Plan aimed at increasing net domestic product (at 1968-69 factor cost) from Rs 29,071 crore in 1969-70 to Rs 38,306 crore in 1973-74. Average annual compound rate of growth envisaged was 5.7 per cent.

FIFTH PLAN

The Fifth Plan (1974-79) was formulated against the backdrop of severe inflationary pressures. The major objectives of the Plan were to achieve self-reliance and adopt measures for raising the consumption standard of people living below the poverty line. This Plan also gave high priority to bringing

inflation under control and to achieving stability in the economic situation. It targeted an annual growth rate of 5.5 per cent in national income. Four Annual Plans pertaining to the Fifth Plan period were completed. It was subsequently decided to end the Fifth Plan period with the close of Annual Plan 1978-79 and initiate work for a new Plan for the next five years with new priorities and programmes.

SIXTH PLAN

Removal of poverty was the foremost objective of the Sixth Plan (1980-85). The strategy adopted was to move simultaneously towards strengthening infrastructure for both agriculture and industry. Stress was laid on tackling inter-related problems through a systematic approach with greater management, efficiency and intensive monitoring in all sectors and active involvement of people in formulating specific schemes of development at the local level and securing their speedy and effective implementation.

The actual expenditure in the Sixth Plan stood at Rs 1,09,291.7 crore (current price) as against the envisaged total public sector outlay of Rs 97,500 crore (1979-80 prices) accounting for a 12 per cent increase in nominal terms. Average annual growth rate targeted for the Plan was 5.2 per cent.

SEVENTH PLAN

The Seventh Plan (1985-90) emphasised policies and programmes, which aimed at rapid growth in foodgrains production, increased employment opportunities and productivity within the framework of basic tenets of planning, namely, growth, modernisation, self-reliance and social justice. Foodgrains production during the Seventh Plan grew by 3.23 per cent as compared to a long-term growth rate of 2.68 per cent between 1967-68 and 1988-89 and a growth rate of 2.55 per cent in the eighties due to overall favourable weather conditions, implementation of various thrust programmes and concerted efforts of the Government and the farmers. To reduce unemployment and consequently, the incidence of poverty, special programmes like *Jawahar Rozgar Yojana* were launched in addition to the existing programmes. Due recognition was accorded to the role small scale and food processing industries can play in this regard. The total expenditure during the entire Seventh Plan stood at Rs 2,18,729.62 crore (current prices) as against the envisaged total public sector outlay of Rs 1,80,000 crore, resulting in a 21.52 per cent increase in nominal terms. During this Plan period, the Gross Domestic Product (GDP) grew at an average rate of 5.8 per cent exceeding the targeted growth rate by 0.8 per cent.

ANNUAL PLANS

The Eighth Five Year Plan (1990-95) could not take off due to the fast-changing political situation at the Centre. The new Government, which assumed power at the Centre in June 1991, decided that the Eighth Five Year Plan would commence on 1 April 1992 and that 1990-91 and 1991-92 should be treated as separate Annual Plans. Formulated within the framework of the Approach

to the Eighth Five Year Plan (1990-95), the basic thrust of these Annual Plans was on maximisation of employment and social transformation.

EIGHTH PLAN

The Eighth Five Year Plan (1992-97) was launched immediately after the initiation of structural adjustment policies and macro stabilisation policies, which were necessitated by the worsening Balance of Payments position and inflation position during 1990-91. The various structural adjustment policies were introduced gradually so that the economy could be pushed to a higher growth path and improve its strength and thus prevent Balance of Payments and inflation crisis in future. The Eighth Plan took note of some of these policy changes, which were to come about due to these reforms. The Plan aimed at an average annual growth rate of 5.6 per cent and an average industrial growth rate of about 7.5 per cent. These growth targets were planned to be achieved with relative price stability and substantial improvement in the country's Balance of Payments.

Some of the salient features of economic performance during the Eighth Five Year Plan indicate, among other things, (a) faster economic growth, (b) faster growth of manufacturing sector and agriculture and allied sectors, (c) significant growth rates in exports and imports, improvement in trade and current account deficit, and significant reduction in the Central Government's fiscal deficit. However, a shortfall in expenditure in the Central sector due to inadequate mobilisation of internal and extra budgetary resources by the PSUs and various departments was witnessed. In the States sector, the reason for shortfall was lack of mobilisation of adequate resources due to deterioration in the balance of current revenues, erosion in the contribution of state electricity boards and state road transport corporations, negative opening balance, mounting non-Plan expenditure and shortfalls in the collection of small savings, etc.

The total expenditure during the entire Eighth Plan stood at Rs 4,95,669 crore [by taking 1996-97(RE) as actual] at current prices as against envisaged total public sector outlay of Rs 4,34,100 crore (1991-92 prices) resulting in a 14.2 per cent increase in nominal terms. The Eighth Plan envisaged an annual average growth rate of 5.6 per cent. Against this an average annual growth rate of 6.5 per cent was achieved during this plan period.

NINTH PLAN

The Ninth Plan (1997-2002) was launched in the fiftieth year of India's Independence. The Planning Commission constituted 23 Steering Committees and 116 Working Groups, covering various sectors for the formulation of the Plan. This preparatory work culminated in the finalisation of the "Approach Paper to the Ninth Plan" in the form of broad guidelines for the preparation of the detailed Plan. The Approach Paper was approved unanimously by the National Development Council. The salient features of the Approach Paper were: (i) a targeted GDP growth rate of 7 per cent per annum for the Ninth Plan period; (ii) Emphasis on the seven identified Basic Minimum Services

(BMS) with additional Central Assistance earmarked for these services with a view to obtaining a complete coverage of the population in a time-bound manner. These include provision of safe drinking water, availability of primary health service facilities, universalisation of primary education, public housing assistance to shelter-less poor families, nutritional support to children, connectivity of all villages and habitations and streamlining of the public distribution system with a focus on the poor; (iii) in pursuing a policy of fiscal consolidation, the focus was on sharp reduction in the revenue deficit of the Government, including Centre, States and PSUs through a combination of improved revenue collections and control of inessential expenditures, particularly with regard to subsidies and through recovery of user charges; (iv) decentralisation of planning and implementation through greater reliance on States and *Panchayati Raj* institutions.

The Government reviewed the draft Ninth Plan so as to suitably reflect the altered priorities, as enunciated in the National Agenda for Governance, in general and the Prime Minister's Special Action Plan (SAPs) in particular. Accordingly, the Plan document was revised to incorporate the SAPs in the following areas: (a) Doubling of food production and making India hunger-free in 10 years; (b) Rapid improvement in physical infrastructure; (c) National Water Policy; (c) Social Infrastructure: Rural Housing, Urban Housing, Health Care Services, Education, Urban Water Supply and Sanitation; Rural Water Supply and Sanitation and; (d) Information Technology.

The specific objectives of the Ninth Plan as endorsed by the National Development Council in its 48th Meeting are: (i) priority to agriculture and rural development with a view to generating adequate productive employment and eradication of poverty; (ii) accelerating the growth rate of the economy with stable prices; (iii) ensuring food and nutritional security for all, particularly the vulnerable sections of society; (iv) providing the basic minimum services of safe drinking water, primary health care facilities, universal primary education, shelter, and connectivity to all in a time-bound manner; (v) containing the growth rate of population; (vi) ensuring environmental sustainability of the development process through social mobilisation and participation of people at all levels; (vii) empowerment of women and socially disadvantaged groups such as Scheduled Castes, Scheduled Tribes and Other Backward Classes and Minorities as agents of socio-economic change and development; (viii) promoting and developing people's participatory institutions like *Panchayati Raj* institutions, cooperatives and self-help groups; and (ix) strengthening efforts to build self-reliance.

The Ninth Plan envisages an average target growth rate of 6.5 per cent per annum in GDP as against the growth rate of 7 per cent approved earlier in the Approach Paper. The scaling down of the target was necessitated by the changes in the national as well as global economic situation in the first two years of the Ninth Plan. During 1997-98, the first year of the Ninth Five Year Plan there was a slow down in the growth rate of Indian economy to 4.8 per cent. In the second year and third year of the Plan, the economy grew

by about 6.6 and 6.4 per cent respectively. The anticipated growth rate for 2000-01 would be around six per cent.

The Ninth Plan assumes an Incremental Capital-Output Ratio (ICOR) of 4.3, which implies an assumption of average domestic savings and investment rates of 26.1 per cent and 28.2 per cent of GDP, respectively. The Plan proposes an investment of Rs 2,171 thousand crore during the period 1997-2002 at 1996-97 prices, most of which (92.6 per cent amounting to Rs 2,011 thousand crore) could be financed from domestic resources. Investment in the public sector would be Rs 726 thousand crore constituting about 33 per cent of the total investment as against the level of 34.3 per cent realised during the Eighth Plan period. The public sector outlay is proposed at Rs 8,59,200 crore, out of which the Central Plan outlay would be Rs 4,89,361 crore, which includes provision to implement the additional requirements of Special Action Plans. The Central Budgetary Support to the Plan is targeted at Rs 3,74,000 crore at 1996-97 prices.

ACHIEVEMENTS

In the last 50 years (1950-51 to 2000-01), since India became a Republic, the National Income - Net National Product (NNP) has increased 7.6 times from Rs 1,33,499 crore to Rs 10,72,906 crore (at 1993-94 prices) implying a compound growth rate of 4.2 per cent per annum. The per capita income has increased 2.75 times from Rs 3,718 to Rs 10,654 (at 1993-94 prices) registering a compound growth rate of 2.1 per cent—all the aggregates measured at factor-cost at 1993-94 prices.

Despite the successive drought conditions that prevailed during the first three years of the Seventh Plan (1985-90), the economy fared exceptionally well during the Plan period with a growth rate of GDP at six per cent per annum as against the target of five per cent. The growth momentum was maintained during the Eighth Five Year Plan (1992-97), which was launched at a time when the country was facing a severe financial crisis and critical balance of payments position. Important policy reforms have been made since June 1991 towards liberalisation and structural adjustments of the economy, and these measures have shown results.

The Ninth Plan (1997-2002) envisages an annual average growth rate of 6.5 per cent for the economy as a whole. As against this, the rate of growth achieved during the first three years are 4.8 per cent, 6.6 per cent and 6.4 per cent respectively. For the year 2000-01, the growth rate is estimated to be six per cent as per the Advanced Estimates of National Income, 2000-01.

The average inflation rate measured by changes in the Wholesale Price Index (WPI) (1993-94 series) was 4.4 per cent, 5.9 per cent, 3.3 per cent during the years 1997-98, 1998-99, 1999-2000 respectively. During the financial year 2000-01, the average inflation rate is estimated to be about 7.2 per cent.

Agriculture: Agriculture and allied activities make the single largest contribution to the Gross Domestic Product, accounting for almost 27 per cent

of the total and the sector provides employment to around 65 per cent of the total work force. Agricultural growth has direct impact on poverty eradication. The share of agricultural products in the total export earnings is substantial. Agricultural growth is also an important factor in containing inflation, raising agricultural wages and employment generation. Large investments were made for the development of research system under the aegis of Indian Council of Agricultural Research and State Agricultural Universities. Simultaneously, a well designed extension work has been created for disseminating new technologies to the cultivators. In terms of growth, the performance has been quite impressive in the post-Independence period as compared to the pre-Independence period.

Growth Trends and Crop Production: Agriculture and allied sector is anticipated to grow by about 0.9 per cent in 2000-01 which is marginally better than 0.7 per cent growth in the preceding year. The country's performance in agriculture during the last two decades has been reasonably satisfactory. During 2000-01 the foodgrains production is likely to achieve 196.13 million tonnes against the target of 212 million tonnes. Foodgrains production was to reach 234 million tonnes target by the terminal year of the Ninth Plan (2001-02) as envisaged earlier. But considering less than the expected performance, the production target has been revised downward to 218 million tonnes.

Foodgrains production declined during 2000-01 by 6.1 per cent sharper than 3.6 per cent fall recorded in 1997-98. The estimated foodgrains production of only 196.13 million tonnes during 2000-01 implies a fall of 12.74 million tonnes over the previous year. Production of *Kharif* foodgrains fell from 104.85 million tonnes in 1999-2000 to 102.32 million tonnes in 2000-01 while that of *Rabi* fell from 104.02 to 93.81 million tonnes during the same period. Pulses production fell sharply by 1.63 million tonnes from 13.35 million tonnes in 1999-2000 to 11.72 million tonnes during 2000-01.

Production of oil seeds during 2000-01 is estimated to be 18.87 million tonnes, a sharp decline from 20.87 million tonnes achieved during 1999-2000. Cotton production is also estimated to be marginally lower at 11.48 million bales (180 kg) as compared to 11.64 million bales during the previous year. However, sugarcane production is estimated to be up at 301.44 million tonnes compared to 299.23 million tonnes during the last year.

Horticulture and Plantation crops: Diverse agro-climatic conditions in the country provide enormous opportunities for cultivation of a large number of horticulture and plantation crops. Horticulture is being carried out on eight per cent of the cultivated area in the country, whereas it contributes 24.5 per cent towards agriculture GDP (1998-99). The estimated production of fruits was 46 million tonnes and that of vegetables 91 million tonnes during 1999-2000. Eighth Five Year Plan had given tremendous boost to the development of horticulture sector. The emerging areas in the horticulture are medicinal and aromatic plants, floriculture, mushroom, etc. A thrust has been given for expanding the scope of beekeeping as it enhances crop productivity.

However, there are areas of concern such as lack of adequate infrastructure

and post harvest management practices resulting in loss and wastage of horticulture crops in the range of about 37 per cent of the total production at various stages. Besides, processing facilities in the country are far from satisfactory.

During 1990-91 to 1999-2000 estimated production of tea increased from 720 million kg to 805.6 million kg and that of coffee rose from 1.70 lakh tonnes to 2.92 lakh tonnes. During this period, natural rubber production increased from 3.30 lakh tonnes to 6.22 lakh tonnes.

Animal Husbandry and Dairying: India is bestowed with rich domestic animal diversity having 30 breeds of cattle, 10 of buffalo, 42 of sheep, 20 of goat, nine of camel, six of horse, three of pig and 18 of poultry. India ranks first in respect of cattle (204.58 million) and buffalo (84.21 million), second in goat (115.28 million), third in sheep (50.78 million) and seventh in poultry population (307.07 million).

Indian livestock plays a vital role in improving the socio-economic conditions of the rural masses. The contribution of livestock sector to the GDP has improved to 6.11 per cent in 1998-99. This is largely due to a sustained annual growth rate of 4.21 per cent in milk production in the last two and a half decades and an even higher growth in meat (4.34 per cent) and poultry (5.87 per cent). The value of output from livestock sector was about Rs 1,23,076 crore during 1998-99, which is about 22 per cent of the value of the output from agriculture and allied sector. Animal husbandry sector also provides large self-employment opportunities, especially to the rural women (about 15 million persons).

Agriculture Export: India's agriculture export basket is well diversified. Tea, coffee and spices are traditional export products from the country. With the liberalised trade regime, export of rice, both *basmati* and *non-basmati* varieties, got a boost. Similarly marine products are one of the major items of export.

The value of agriculture export was Rs 6,317 crore (US\$ 3,521 million) during 1990-91. This increased to Rs 24,576 crore (US\$ 5,671 million) in 1999-2000. The share of agriculture export in the country's total merchandise export was 19.4 per cent in 1990-91 and declined to 14.6 per cent because of diversification of country's exports and relatively higher increase of share of other industrial products as compared to agricultural products. India has unique distinction of being dominant exporter of tea and spices since last many decades. India is emerging as a major player in the export of cereals in general and rice export in particular. India's share in world rice trade has gone up from 6.4 per cent in 1990 to 10.4 per cent in 1998. In terms of value, rice export rose from US\$ 257 million in 1990-91 to US\$ 717 million in 1999-2000, despite tough competition from Pakistan in aromatic rice trade and other Asian countries in other varieties of rice.

Fisheries: India is the third largest producer of fish in the world and in inland fish production, the country stands second. Fish production in the country

has been showing an increasing trend and has reached a level of 5.65 million tonnes in 1999-2000. Production of fish has registered an annual average growth rate of 4.12 per cent in 1990s. In case of fish production from inland fisheries (including aquaculture), it has increased from 1.54 million tonnes in 1990-91 to 2.82 million tonnes in 1999-2000 registering an average annual growth rate of 6.55 per cent during the period. Presently, fish production from inland sources is about 49 per cent and the balance 51 per cent comes from the marine sector. The export of marine products in terms of value registered a level of Rs 630.88 crore in 2000-01 against Rs 89.33 crore during 1990-91 registering an annual average growth rate of 19.18 per cent during the period.

National Policy on Agriculture : National Policy on Agriculture (NPA) seeks to actualise the vast untapped growth potential of Indian agriculture, strengthen rural infrastructure to support faster agricultural development, promote value addition, accelerate the growth of agro business, create employment in rural areas, secure a fair standard of living for farmers and agricultural workers and their families, discourage migration to urban areas and face the challenges arising out of economic liberalisation and globalisation. Over a time-frame of two decades, the Policy envisages to attain: (a) A growth rate in excess of 4 per cent per annum in the agriculture sector; (b) Growth that is based on efficient use of resources conserving our soil, water and biodiversity; (c) Growth with equity, *i.e.*, growth which is widespread across regions and farmers; (d) Growth that is demand driven and caters to domestic markets and maximises benefits from exports of agricultural products in the face of the challenges arising from economic liberalisation and globalisation; and (e) Growth that is sustainable technologically, environmentally and economically.

Irrigation : On the irrigation side the potential created in major, medium and minor irrigation schemes increased from 22.6 million hectares in 1950-51 to 26.26 million hectares at the end of the First Plan, 29.08 million hectares by the end of Second Plan, 33.57 million hectares at the end of Third Plan and 37.1 million hectares by 1966-69. At the end of 1969-74, the potential created was 44.20 million hectares, by 1979-80 it touched 56.61 million hectares and by 1981-85 it reached 65.22 million hectares. The potential created and utilised by the end of the Eighth Plan, *i.e.*, by 1996-97 was 86.26 million hectares and 77.22 million hectares, respectively. The Ninth Plan target was fixed at 17.05 million hectares for potential creation and at 13.64 million hectares for utilisation. The anticipated potential created and utilised in the first two years of the Ninth Plan is 2.85 million hectares and 2.82 million hectares respectively.

Power: Under the Power sector, total installed capacity (including non-utility), which was only 2,301 MW in 1950, increased to 1,02,268 MW (including non-utility of 13,166 MW) by the end of March 1998. The cumulative capacity in the public utilities as on March 2001 in the country has reached to 1,01,154 MW (provisional) comprising 25,220 MW as hydro, 71,906 MW as thermal, 2,758 MW as nuclear and 1,270 MW as wind energy. A capacity addition of 40,245 MW in the public utilities has been targeted for the Ninth Five Year Plan period (1997-2002) and against this achievement

so far during the first four years of the Plan period were 3,226 MW, 4,242 MW, 4,507 MW and 3,776 MW respectively.

Under the rural electrification programme, 4.99 lakh villages had been electrified out of 5.87 lakh villages (as per 1991 Census) by the end of Eighth Plan, achieving 85 per cent level of electrification. Till March 2001, 5.08 lakh (86.5 per cent) villages were electrified.

Education : The National Policy on Education (NPE), 1986 and its Programme of Action (POA) envisaged that free and compulsory education of satisfactory quality should be provided to all children up to the age of 14 years before the commencement of the 21 century. The target for the Ninth Five Year Plan was fixed under three broad parameters—Universal Access, Universal Retention and Universal Achievement. In order to achieve Universalisation of Elementary Education (UEE) by 2000 AD, the following key strategies were worked out in consultation with States/UTs: (1) overcome the problems of school drop-outs and lay emphasis on retention; (2) shift focus from educationally backward States to educationally backward districts; (3) provide universal access to minimum levels of learning (MLL) for enhancement of learners' achievements; (4) improve school effectiveness, teacher competence, training and motivation; and (5) decentralisation of planning and management through *Panchayati Raj* Institutions (PRIs)/Village Education Committees (VECs) and stress on participative process.

Major initiatives have been taken up both for qualitative and quantitative improvement of Elementary Education in the country. These include Operation Black Board, Non-formal Education Programme, Teachers Education, District Primary Education Programme (DPEP), Minimum Levels of Learning, Reorganisation and Restructuring of Teacher Education, Nutritional support to children of primary education (mid-day meals) and improvement of school enrolment and quality of basic education.

As a result, there has been improved performance of the UEE programmes over the years. The number of primary schools (Class I to V) has increased from 2.09 lakh in 1950-51 to 6.27 lakh in 1998-99 and upper primary schools (Class VI to VIII) from 0.13 lakh in 1950-51 to 1.90 lakh in 1998-99. Girls' enrolment has grown at primary stages from 5.4 million in 1950-51 to 48.2 million in 1998-99 and that of upper primary stages from 0.5 million to 16.3 million. The rate of growth of enrolment of girls has been higher than that of boys. Girls enrolment ratio at the primary level has increased from 24.80 in 1950-51 to 82.85 in 1998-99. Recent trends indicate that gender gap in enrolment at the primary level is narrowing down, albeit gradually. Drop out rates for girls at primary level has steadily come down to 44.66 in 1998-99 from 70.90 in 1960-61. Under the Non-Formal Education (NFE), the emphasis during the Ninth Plan period is on consolidation of the existing programmes in a number of States/UTs. Another 85 voluntary agencies have been sanctioned 9,485 NFE centres in the current year.

Under Adult Education, Total Literacy Campaign (TLC) is the principal strategy adopted by the National Literacy Mission (NLM) for eradication of

illiteracy in the country. The literacy campaigns are area specific, time-bound and are developed through voluntary, cost-effective and outcome-oriented methods. The NLM aims to provide functional literacy to persons in the age group of 15-35 years to threshold sustainable level of 75 per cent by the year 2005. So far 457 districts have been covered under TLC survey. Of these 220 districts have entered into post literacy stage and 80 districts are in the continuing education stage.

According to the National Sample Survey Organisation (NSSO) 53rd round, the percentage of literacy has increased from 52 in 1991 to 62 in 1997 and projected at 64 for 1998. The urban-rural differential in literacy ratio has also shown a marked decline of 4 per cent, this is faster than in any previous decade. The rise in female literacy between 1991 and 1997 has been 11 per cent whereas the male literacy rate has risen by 9 per cent for the same period. This is a tribute to the special emphasis laid by NLM on women's participation. According to the NSSO projections the literacy rate in the country will be 68 per cent by 2001.

There has been considerable expansion of higher education with its role for economic and social development. The government took concrete measures to reform higher education and initiated steps for restructuring the UGC to achieve this. At the time of the Independence there were 20 universities and 591 colleges, while up to November 1998, the number of universities increased to 187 and the number of institutions deemed-to-be-universities was 39. At the beginning of the year 1999-2000, the total enrolment of students in universities and colleges was 74.18 lakh and that of women students was 25.74 lakh. Many emerging areas like Bio-technology, Energy Education, Electronics, Computer Application and Business Administration, etc., have been introduced to keep pace with the developed world. During the Ninth Plan, the UGC has launched new schemes under the broad headings: (a) relevance and quality, (b) access and equity, (c) moral/adult, continuing education and (d) management education and resource mobilisation. Distance education/correspondence courses are increasingly being used to enhance the access to higher education for those who cannot take up full-time traditional courses. Facilities for SCs/STs/OBCs/minorities and other deprived groups have also been specially created. The UGC has decided to establish a Very Small Apperture Transmission (VSAT) network which will act as Wide Area Network (WAN) for the universities. The application of VSAT network includes data transfer, indirect access, video conferencing, distance learning and multimedia.

The Technical Education system enhanced its coverage and accessibility across the country to suit the needs of organised, unorganised and rural sectors, with its relevance to productivity and industrial needs. Priority is accorded to bring industrial/commercial system and educational institutions into a closer circuit of interaction and mutually supported activities. Technology Development Missions (TDMs) have contributed in this area to meeting the emerging R&D challenges of the Industry in seven generic areas. To upgrade the technical education system in the Polytechnics, two phases of a massive

World Bank-aided State Sector Project has been completed with its third phase already on the anvil. A new Indian Institute of Technology has come up in Assam to serve the North-Eastern region of the country. Considering Information Technology as the future base of all academic, technical and industrial activities, the Indian Institute of Information Technology (IIIT) has been established one each at Gwalior and Allahabad.

Industry : Industrial growth after improving marginally to 6.6 per cent in 1997-98, fell to 4.1 per cent in 1998-99. This decline can be attributed to poor performance by the mining and manufacturing sectors. During 1999-2000, the industrial production has shown a distinct improvement. The overall industrial output grew by 6.7 per cent during the year 1999-2000 compared to 4.1 per cent in 1998-99. The improvements are particularly noticeable in manufacturing which grew at 7.1 per cent. Again the industrial growth has declined to 4.9 per cent during the year 2000-01 mainly due to fall in production of manufacturing sector which has grown at 5.2 per cent in comparison to 7.1 in the year 1999-2000. As per use-based classification mixed trends are observed during the year 2000-01. The growth rate of the consumer goods including durables and non-durables accelerated to 7.9 per cent during the year 2000-01 against 5.7 per cent achieved in the previous year. The growth rate of basic goods, capital goods and intermediate goods declined drastically, and it was estimated at 3.8 per cent, 1.4 per cent and 4.5 per cent respectively during the year 2000-01 in comparison to a growth rate of 5.5 per cent, 6.9 per cent and 8.8 per cent in the previous year. Six core and infrastructure industries, viz., electricity, crude oil, refinery, coal, steel and cement, having a weightage of 26.7 per cent in the overall Index of Industrial Production (IIP) grew at 5.3 per cent in 2000-01, compared to 9.1 per cent in 1999-2000. The important factors for the slow down of industrial growth during the year 2000-01 are lack of domestic demand for intermediate goods, low inventory demand for capital goods, high oil prices, existence of excess capacity in some sectors, business cycle, inherent adjustment lacks in industrial restructuring and calamity like Gujarat earthquake, and a high interest rate with an adverse impact on private investment, and slow down in the world economy. In the post-liberalisation period between 1991 to end of 2000, a total of 12,050 Foreign Direct Investment proposals and 6,869 foreign technology agreements have been approved, involving an investment of approximately Rs 2,46,797.53 crore.

Panchayati Raj Institutions : The *Panchayati Raj* Institutions (PRIs) have emerged as the third tier of governance in the country after the 73rd Constitutional Amendment Act, 1992. Consequent upon the enactment of the Act, almost all the States/UTs barring few have enacted appropriate legislation for setting up of strong, viable and responsible *Panchayats* at different levels in their respective States/UTs. In all the States *Panchayats* have been set up according to new provisions except in few States. In States like Kerala, Madhya Pradesh second round of *Panchayat* elections have also been held.

Under the Act, PRIs are envisaged as instruments for establishment of a democratic decentralised development process through peoples' participation

in decision-making in implementation and delivery of services central to the living conditions of the people. In order to achieve this objective, under Article 243 (G) States are required to devolve adequate powers and responsibilities on the PRIs to enable them to act as effective institution of local self-government. It also enjoins on them the responsibility for preparation of plans for economic development and social justice and its implementation in respect of 29 Subjects listed in the Eleventh Schedule of the Constitution. Pursuant to this, the States are required to devolve administrative and financial powers along with functionaries in respect of 29 Subjects to the PRIs. The devolution of three Fs, i.e., Functions, Functionaries and Funds are under various stages of operationalisation in different States. In fact, in States like Kerala, Madhya Pradesh, Uttar Pradesh, Tamil Nadu, the process of devolution has been carried out effectively with transfer of three Fs to PRIs in respect of selected items.

Article 243(I) of the Constitution provides for constitution of State Finance Commissions (SFCs) to review the financial position of *Panchayats* and to make recommendations regarding principles governing distribution of net taxes between State Governments and the *Panchayats*, and assignment of taxes and grant-in-aid to *Panchayats*. All the States except few have set up their SFCs. The SFCs in majority of cases, have submitted their reports. The recommendations of the SFCs have been accepted *in toto* by some States, while in others, it has either been partially accepted or is under scrutiny. In few States like Kerala, the second SFC has also been constituted.

Article 243 (ZD) of the 74th Constitutional Amendment Act facilitates the process of decentralised planning. It envisages that 'there shall be constituted in every State at the district level, a District Planning Committee (DPC) to consolidate the Plans prepared by the *Panchayats* and the Municipalities in the district and to prepare a draft development Plan for the district as a whole'. Hence, State Governments are required to set up DPCs in each district to prepare composite Plans covering both urban and rural areas.

The Provisions of the *Panchayats (Extension to the Scheduled Areas) Act* 1996 has come into force with effect from 24 December, 1996. The Act extends *Panchayats* to the tribal areas of eight States, viz., Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Maharashtra, Madhya Pradesh, Orissa and Rajasthan. It strives to enable tribal society to assume control over their own destiny to preserve and conserve their traditional rights over natural resources.

Gram Sabha is now recognised as the most important institution in the system of participatory democracy and decentralisation. This view found its expression in the declaration of the year 1999-2000 as the 'Year of *Gram Sabha*'. To ensure greater transparency and accountability, attention of State Governments has been drawn to the importance of *Gram Sabhas* in the proper implementation of development programmes through a system of social audit. Several states have taken steps to strengthen the *Gram Sabhas* and to ensure timely meetings.

In the light of 73rd Constitutional Amendment Act, the District Rural Development Agencies (DRDAs) are also being restructured to work under the overall control and supervision of the *Zilla Parishads*.

In order to make PRIs a success, a time-bound training programme for capacity building has been initiated for the elected *panchayat* representatives especially new entrants, SCs/STs/women and government functionaries so as to make them familiar with the planning process and implementation of various programmes, technologies and other requisite information available.

PROGRAMME IMPLEMENTATION

The Ministry of Statistics and Programme Implementation is entrusted with the monitoring of monthly and cumulative performance of the country's eleven key industrial infrastructure sectors, *viz.*, Power, Coal, Steel, Railways, Ports, Telecommunications, Fertilizers, Cement, Petroleum, Roads and Civil Aviation for submission, *inter alia*, to the Prime Minister's Office and the Cabinet Secretariat. The growth rate in respect of each infrastructure sector since 1996-97 and the production/performance during 2000-2001 is given in table 14.1.

MONITORING OF TWENTY-POINT PROGRAMME

The Twenty-Point Programme, as a package, consists of schemes/programmes from both Plan and Non-Plan being implemented by the Central Government, State Governments and Union Territory Administrations having direct bearing on the life of the poor and the under-privileged population of the country. In essence, it is a statement of Government priorities and its concern to tackle socio-economic problems in a time-bound manner so that the benefits of the schemes/programmes/percolate to the targeted people. The Twenty Point Programme (TPP) was first announced in 1975 and it was reviewed/restructured in 1982 and again in 1986.

Essence of Twenty Point Programme-86: The outlays of different items under the TPP are derived from the relevant Plan heads under State Governments/Union Territory Administrations and nodal Ministries/Departments at the Centre. Some schemes, like family welfare programme, are funded entirely by the Central Government, while other programmes, like, *Swaranjayanti Gram Swarajgar Yojana* and *Indira Awaas Yojana* are financed jointly by the Centre and the States. The Ministries/Departments concerned with the items of the TPP set the annual targets in consultation with the States and the Ministry of Statistics & Programme Implementation. Under TPP-86, there are 119 items identified for monitoring; 54 items are monitored on the basis of evaluatory criteria and 65 items are amenable to physical targetting/monitoring. Out of 65 items, 20 crucial items are monitored on monthly basis. The programme is monitored on monthly, half-yearly and annual basis.

The All-India performance during 1998-99, 1999-2000, and April to December 2000 are given in table 14.2.

TABLE 14.1 : ANNUAL GROWTH RATE OF INDUSTRIAL INFRASTRUCTURE SECTORS

Sectors	1996-97	1997-98	1998-99	1999-2000	2000-2001	Annual Production Performance 2000- 2001 (provisional)
1. Power	3.8	6.6	6.6	7.1	3.9	499.45 (BU)
2. Coal	5.8	3.6	-2.0	3.0	3.0	307.87 (MT)
3. Steel	1.6	0.6	-1.5	12.5	7.0	30.42 (MT)
4. Railway Revenue Earning Freight Traffic	4.6	5.0	-2.0	8.4	3.7	473.25 (MT)
5. Cargo Handled at Major Ports	5.5	10.6	0.1	8.0	3.3	280.96 (MT)
6. Telecommunications						
a) Net addition in Switching Capacity	19.7	13.0	36.1	40.2	6.4	71,46,070 (Lines)
b) Provision of New Telephone Connections	17.5	27.1	16.4	29.7	20.5	59,24,789 (Nos.)
c) Village Public Telephones	74.1	-24.4	-13.5	-8.3	1.0	34,317 (Nos.)
7. Cement Production	9.5	9.1	5.6	14.0	-0.5	99.94 (MT)
8. Fertilizer Production						
a) Nitrogen	-2.0	17.3	3.9	4.1	0.7	10.96 (MT)
b) Phosphate	-0.1	16.4	3.1	7.1	10.3	3.75 (MT)
9. Petroleum						
a) Crude Oil	-8.6	2.8	-2.8	-2.2	1.6	32.48 (MT)
b) Refinery	6.9	3.6	5.2	25.3	20.4	103.48 (MT)
10. Civil Aviation						
a) Export Cargo handled	-	-0.2	-4.4	10.8	5.1	3,25,087 (MT)
b) Import Cargo handled	-	1.4	-2.4	16.2	3.6	1,66,447 (MT)
c) Passengers handled at International Terminals	-	3.1	0.0	0.0	4.6	123.46 (lakh PAX)
d) Passengers handled at Domestic Terminals	-	-2.8	0.3	7.4	7.7	164.91 (lakh PAX)
11. Road						
a) Upgradation of Highways	-11.7	-34.9	47.6	68.6	27.3	1,751 (kms)
b) Rehabilitation/construction of bridges	123.5	-62.5	137.5	82.5	28.8	134 (Nos.)

BU-Billion Unit

MT-Million Tonnes

MT-Metric Tonnes

TABLE 14.2 : ALL INDIA PERFORMANCE OF 20-POINT PROGRAMME
(From 1998-1999, 1999-2000 and April-December 2000)

Sl. No.	Point No.	Items	Unit	1998-99			1999-2000			2000-2001		
				Target	Achieve-ment	Per cent	Target	Achieve-ment	Per cent	Target	Achieve-ment	Per cent
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	1B	<i>Jawahar Rozgar Yojana</i> ¹ @	Lakh									
2.	5A	Distribution of Surplus Land	Mandays	3964.8	3804.8	96.0	-	2655.6	-	-	1227.7	-
3.	7A	Drinking Water Prob. (Vlg.)	000 Acre	65.6	25.4	39.0	44.8	25.6	57.0	9.3	14.4	155.0
4.	8A	Community Health Centres	Nos.	104.9	112.2	107.0	90.1	75.2	83.0	53.4	33.4	63.0
5.	8B	Primary Health Centres (PHC)	Nos.	729.0	112.0	15.0	729.0	92.0	13.0	145.0	14.0	10.0
6.	8D	Immunization of Children**@@	Nos.	381.0	325.0	85.0	381.0	144.0	38.0	192.0	9.0	5.0
7.	9C	ICDS Blocks Oprl. (Cum) \$	Lakh Nos.	251.2	235.3	94.0	247.2	240.3	97.0	182.6	160.0	88.0
8.	9D	<i>Anganwadies</i> (Cum.) \$	Nos.	3882.0	3882.0	100.0	3882.0	3883.0	100.0	4498.0	4384.0	97.0
9.	11A	SC Families Assisted	000 Nos.	408.2	438.0	107.0	441.2	495.9	112.0	502.9	504.3	100.0
10.	11B	ST Families Assisted	000 Nos.	2425.0	2559.2	106.0	2500.0	1930.6	77.0	156.1	81.7	52.0
11.	14C	<i>Indira Awaas Yojana</i> for construction of new houses @	000 Nos.	1100.7	1181.9	107.0	1113.4	1029.0	92.0	768.1	489.2	64.0
12.	14D	EWS Houses Provided	000 Nos.	987.5	888.0	90.0	845.2	836.4	99.0	595.6	354.7	60.0
13.	14E	LIG Houses	000 Nos.	118.2	116.9	99.0	68.6	102.5	149.0	117.7	200.7	171.0
14.	14F	<i>Indira Awaas Yojana</i> (for upgradation of Houses)	000 Nos.	57.8	41.2	71.0	40.2	26.8	67.0	16.4	11.3	69.0
15.	15	Slum Improvement (Population)	000 Nos.	-	-	-	426.5	142.2	33.0	300.2	85.1	28.0
16.	16A	Tree Plantation	000 Nos.	4330.3	3344.4	77.0	4706.2	5572.6	118.0	3058.2	2995.7	98.0
17.	16B	Area to be covered	Lakh Nos.	11166.1	11542.3	103.0	12130.4	11771.6	97.0	11379.8	8996.2	79.0
18.	19A	Villages Electrified	000 Hect.	1175.0	1588.5	135.0	1318.5	1399.4	106.0	1227.3	805.1	66.0
19.	19B	Pumpsets Energised	Nos.	2000.0	2757.0	138.0	2000.0	1914.0	96.0	132.5	55.5	42.0
20.	19C	Improved - <i>Chullahs</i> **	000 Nos.	250.0	345.9	138.0	250.0	277.2	111.0	96.8	183.1	189.0
21.	19D	Bio-gas Plants**	000 Nos.	119.0	1249.8	104.0	1845.0	1732.1	94.0	786.4	521.2	66.0
				100.7	112.0	111.0	120.4	124.8	104.0	69.2	49.3	71.0

¹ Replaced by *Jawahar Gram Samridhi Yojana* from the year 1999-2000.

* Centrally-sponsored scheme on 50:50 Centre/State share.

@ Centrally-sponsored scheme on 80:20 Centre/States share.

@@ Lowest of the figures for DPT, Polio and BCG have been taken on the basis of data furnished by Ministry of Health & Family Welfare and States/UTs.

\$ The figures as given by the D/o Women & Child Dev./M/o Human Resource Development have been adopted.

** Centrally Sponsored Scheme on 100% Centre/State Share.

MEMBER OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME

Member of Parliament Local Area Development Scheme (MPLADS) was announced in the Parliament on 23 December 1993. Under the Scheme, each MP has a choice to suggest to the concerned District Collector, works to the tune of Rs one crore per year to be taken up in his/her constituency. The allocation of Rs one crore has since been increased to Rs two crore per MP per year with effect from 1998-99. The Members of Rajya Sabha can select one or more districts from the State from which he/she has been elected and the nominated Members of Parliament may select one or more districts, but within one State of their choice. The Scheme is to be implemented through the district collectors as per the guide lines on MPLADS issued in this regard. The Department of Programme Implementation, Government of India, has the nodal responsibility for the Scheme at the Centre.

The Scheme was initially administered by the Ministry of Rural Development. The subject was later transferred to the Department of Programme Implementation, now reorganised as Ministry of Statistics & Programme Implementation. The salient features of the scheme are : (a) The works under the scheme shall be developmental in nature based on the locally-felt needs leading to creation of durable assets; (b) Purchase of inventory, equipment or revenue expenditure is not allowed under this Scheme; and (c) The funds released under the Scheme are non-lapsable.

As the Scheme was announced in December 1993, only a token amount of Rs five lakh per MP was released by the then Ministry of Rural Development for 1993-94. These funds were released to the State Governments. Thereafter, funds at the rate of Rs one crore per year per MP up to 1997-98, and at the rate of Rs two crore per MP from 1998-99 are being released directly to the district collector. An aggregate amount of Rs 7,097.8 crore has been released under MPLAD Scheme up to 31 March 2001 out of which about Rs 4,649.49 crore is reported to have been spent. Statewise releases and actual expenditure incurred are given in table 14.3.

The Scheme has had a very good impact. A variety of works has been taken up under the Scheme, such as construction of school buildings, hospitals, village roads, small bridges, common shelters for the old and the handicapped, buildings for cultural and sports activities, public libraries, crematorium, public toilets and tubewells. These works have contributed substantially to the well-being of the community at large.

TABLE 14.3 : SUMMARY STATEMENT FOR RELEASE/EXPENDITURE OF LS AND RS MP'S (AS ON 31 MARCH 2001)

(Rs in lakh)

Sl. No.	Name of State/UT	1993-2001			
		Release by G.O.I	Amount sanctioned	% Sanction over Release	% Utilisation over Release
1.	Andhra Pradesh	58,185.0	55,096.0	94.7	69.4
2.	Arunachal Pradesh	2,765.0	2,512.1	90.9	65.0
3.	Assam	18,785.0	16,342.0	87.0	71.0
4.	Bihar	52,520.0	46,895.0	89.3	65.3
5.	Chhattisgarh	13,845.0	12,872.0	93.0	68.4
6.	Goa	2,265.0	2,042.8	90.2	69.8
7.	Gujarat	33,175.0	29,122.0	87.8	63.2
8.	Haryana	13,515.0	12,565.0	93.0	75.2
19.	Himachal Pradesh	6,485.0	5,776.0	89.1	73.6
10.	J & K	5,400.0	4,407.4	81.6	47.6
11.	Jharkhand	13,030.0	10,804.0	82.9	60.4
12.	Karnataka	36,800.0	33,537.0	91.1	70.1
13.	Kerala	26,075.0	23,437.0	89.9	53.5
14.	Madhya Pradesh	38,150.0	34,157.0	89.5	70.2
15.	Maharashtra	59,965.0	55,671.0	92.8	55.9
16.	Manipur	2,865.0	2,620.3	91.5	74.9
17.	Meghalaya	2,215.0	1,917.5	86.6	84.9
18.	Mizoram	2,010.0	1,824.0	90.7	85.3
19.	Nagaland	1,960.0	1,722.0	87.9	77.0
20.	Orissa	28,640.0	25,928.0	90.5	57.5
21.	Punjab	16,705.0	14,639.0	87.6	48.9
22.	Rajasthan	32,945.0	30,802.0	93.5	68.7
23.	Sikkim	1,900.0	1,810.0	95.3	87.1
24.	Tamil Nadu	56,685.0	54,685.0	96.5	82.7
25.	Tripura	2,665.0	2,577.5	96.7	38.1
26.	Uttaranchal	5,575.0	5,114.7	91.7	70.1
27.	Uttar Pradesh	1,03,090.0	94,580.0	91.7	67.6
28.	West Bengal	48,605.0	42,993.0	88.5	54.2
29.	A & N Islands	505.0	327.1	64.8	64.8
30.	Chandigarh	655.0	579.8	88.5	60.0
31.	D & N Haveli	955.0	914.2	95.7	56.2
32.	Daman & Diu	705.0	471.4	66.9	66.9
33.	Delhi	9,295.0	7,797.7	83.9	65.0
34.	Lakshadweep	755.0	716.4	94.9	94.9
35.	Pondicherry	2,010.0	1,900.0	94.5	32.6
	Nominated	7,740.0	5,947.4	76.8	57.7
	Grand Total	7,09,440.0	6,45,103.3	90.9	65.5
	Orissa Relief	340.0	340.0		

15 Agriculture

THE agriculture sector, provides livelihood to about 64 per cent of the labour force, contributes nearly 26 per cent of Gross Domestic Product and accounts for about 18 per cent share of the total value of the country's exports. It supplies bulk of wage goods required by the non-agricultural sector and raw material for a large section of industry. Per capita net availability of foodgrains went up to a level of 467 gram. per day in 1999-2000 as compared to that of 395 gram in the early fifties. In terms of gross fertilizer consumption, India ranks fourth in the world after USA, the erstwhile USSR and China. The country has the largest area in the world under pulse crops while in the field of cotton, India is the first to evolve a cotton hybrid.

HARVESTING SEASON

There are three main crop seasons, namely, *kharif*, *rabi* and summer. Major *kharif* crops are rice, *jowar*, *bajra*, maize, cotton, sugarcane, sesame and groundnut. Major *rabi* crops are wheat, *jowar*, barley, gram, linseed, rapeseed and mustard. Rice, maize and groundnut are grown in summer season also.

LAND UTILISATION

Land utilisation statistics are available for 92.8 per cent of total geographical area of 3,287.3 lakh hectares. According to land use statistics available from States, area under forests had increased from 404.8 lakh hectares in 1950-51 to 688.5 lakh hectares in 1997-98. Net sown area increased from 1,187.5 lakh to 1,420.2 lakh hectares during the same period. Broad cropping pattern indicates that though foodgrains have a preponderance in gross cropped area as compared to non-foodgrains, their relative share came down from 76.7 per cent during 1950-51 to 66 per cent during 1997-98.

SEEDS

Seed is a critical and basic input for attaining agricultural production and productivity in different agro-climatic regions. The role of quality seed programme, came into prominence about three decades ago. The country made a small beginning with a few thousand quintals of improved seed in the early sixties. Indian seed programme largely adheres to the limited generation system for seed multiplication. The system recognises three generations, namely, breeder, foundation and certified seeds and provides adequate safeguards for quality assurance in the seed multiplication chain to maintain the purity of variety as it flows from the breeders to the farmers. The level of certified/quality seed distributed to the farmers during 1996-97 to 2000-2001 and target for 2001-2002 is given below:

Year	Certified/quality seed distribution (in lakh quintals)
1996-97	73.27
1997-98	75.00
1998-99	84.97
1999-2000	84.23
2000-2001	100.00 (Anticipated)
2001-2002	109.66 (Target)

STRUCTURE OF SEED INDUSTRY

Indian seed programme includes the participation of Central and State governments, ICAR, SAU system, public sector, co-operative sector and private sector institutions. Seed sector in India consists of two national level corporations, i.e., National Seeds Corporation (NSC) and State Farm Corporation of India (SFCI), 13 State Seeds Corporations (SSCs) and about 100 major private sector seed companies. For quality control and certification, there are 21 State Seed Certification Agencies (SSCAs) and 101 State Seed Testing Laboratories (SSTLs). Though the private sector has started to play a significant role in the production and distribution of seeds of *bajra*, sorghum, maize, sunflower, cotton and vegetables particularly after the introduction of the New Seed Policy of 1988, the organised seed sector particularly for food crops cereals continues to be dominated by the public sector.

LEGISLATIVE FRAMEWORK AND POLICY

The Seeds Act, 1966 provides for the legislative framework for regulation of quality of seeds sold in the country. The Act also provides for a system of certification of seeds on a voluntary basis. The Act further provides for notification of varieties which is a pre-requisite for certification. The Central Seed Committee and its various sub-committees and the Central Seed Certification Board are apex agencies set up under the Act to deal with all matters relating to administration of the Act and quality control of seeds.

In order to ensure equitable distribution of quality seeds to farmers, seed has been declared as an essential commodity under the Essential Commodities Act, 1955. The Government of India has promulgated the Seeds (Control) Order, 1983 which seeks to control and regulate seed production and distribution.

In order to encourage export of seeds in the interest of farmers, the procedure for export of seeds has been simplified. Privately developed varieties/hybrids will be allowed to be exported freely except where there is any emergency caused by the natural calamities and seed is required for meeting demand in the country. Export against orders for which production

of seed is organised, is allowed without restriction. In other cases, quantitative ceilings have been prescribed up to which export is permitted freely subject to the provisions of the EXIM Policy.

Under National Seeds Project III (NSP-III), assistance was provided to the SSCs, SSCAs as well as SAUs/ICAR for development of infrastructure to ensure adequate availability of quality seeds to the farmers and bring overall improvement in seed quality control programme. Up to 3 April 2001, 3,024 varieties of different crops have been notified for the purpose of the Seeds Act and 194 varieties were de-notified for the purpose of the Seeds Act, as they were very old and obsolete.

ESTABLISHMENT & MAINTENANCE OF SEED BANK SCHEME

The Department of Agriculture & Cooperation has launched a Central Sector Scheme during the Ninth Plan period. The main objective of the scheme is to make available seeds for any contingent situation arising out of natural calamity, etc., and also to develop necessary infrastructure for storage of seed. The Scheme is being implemented through National Seeds Corporation, State Farms Corporation of India and 12 State Seeds Corporations.

LEGISLATION ON PLANT VARIETIES AND FARMERS' RIGHTS PROTECTION

In order to fulfill the obligations under the TRIPS Agreement of the World Trade Organisation (WTO) which India has ratified, the DAC has formulated legislation on a *sui generis* system for Protection of Plant Varieties and Farmers' Rights. In order to provide necessary back up support for enactment of above Legislation, a new Central Scheme for implementation of PVP Legislation has been formulated. The Protection of Plant Varieties and Farmer's Rights Bill as modified by Joint Parliamentary Committee is under consideration of the Lok Sabha.

FERTILIZER

Fertilizer is a key input for increasing agricultural production. The consumption of chemical fertilizers during 2000-2001 is estimated to be 16.59 million tonnes in terms of the nutrients, nitrogen (N), phosphate (P) and potash (K) as compared to 18.7 million tonnes in 1999-2000.

Urea, which is the most widely used fertilizer is under-price, distribution and movement-control. Its selling price is fixed by the Government of India. The difference between the selling price and the retention price (cost of production+profit on investment) of each unit is paid as subsidy to the manufacturers under the Retention Price-cum-Subsidy (RPS) Scheme. Similarly imported urea is also subsidised. A freight component is also paid to the manufacturers for supplying the urea as per the allocation and supply plan indicated by the Government. The expenditure under the RPS scheme has been Rs 8,744.07 crore and Rs 9,480.96 crore during 1999-2000 and 2000-2001 respectively.

To cushion the impact of decontrol of phosphatic and potassic (P&K) fertilizers, in August 1992, a concession of Rs 1,000 per tonne on DAP and MOP and proportionate concession on complexes was provided during 1992-93 under the special scheme of concession on sale of decontrolled P&K fertilizers. The prices of decontrolled fertilizers were still considered high and, therefore, the concession was enhanced in subsequent years. The rate of concession on P&K fertilizers during 2000-2001 is given as under:

RATES OF CONCESSION FOR DECONTROLLED FERTILIZERS

(Rates Rs/PMT)

Product	1.4.2000 to 30.6.2000	1.7.2000 to 30.9.2000	1.10.2000 to 31.12.2000	1.1.2001 to 31.3.2001
DAP Indigeneous	4,450	3,700	3,900	4,100
DAP Imported	1,050	1,350	1,550	2,550
MOP	2,900	3,050	3,200	3,200
Complexes	2,502-4,082	2,081-3,543	2,194-3,733	2,306-3,886
SSP	800	700	700	700

After decontrol, the Maximum Retail Prices (MRP) of these fertilizers were being indicated by the State governments and Department of Agriculture and Cooperation (DAC) used to disburse concession receipt of certification from the States. From 1 April 1997 to 29 September 2000 the MRP which is being indicated by DAC was uniformly applicable all over the country. From 30 September 2000 onwards the MRP is now being indicated by the Department of Fertilizers (DOF) because the scheme of concessions on sales of P&K fertilizers has been transferred to Department of Fertilizers as per Allocation of Business Rules of Government of India. The MRP indicated by the Government of India are as follows:

Product	1.4.1997 to 28.2.2000 (Rs per MT)	From 29.2.2000 to 31.3.2002 (Rs per MT)
DAP	8,300	8,900
MOP	3,700	4,255
Complexes	6,200-8,000	6,620-8,250

The price of SSP continues to be fixed by the State governments/UTs concerned.

Decontrol and consequent price rise had resulted in reduced consumption of phosphatic and potassic fertilizers and deterioration in the NPK use ratio to 9.5:3.2:1 in 1992-93. With the enhancement of the rates of concession and removal of some other constraints, consumption of phosphatic and potassic fertilizers has increased significantly since 1997-98. As a result, the NPK ratio

which had deteriorated to 10:2.9:1 in 1996-97 improved to 7.9:2.8:1 during 1997-98 and further improved to 6.9:2.9:1 during 1999-2000. The NPK ratio for 2000-2001 is estimated to be 7.0:2.7:1.

The Government of India is implementing a Centrally-sponsored scheme on 'Balanced and Integrated use of Fertilizers' to popularise soil test based application of fertilizers in balanced quantities and production of useful organic manure from city waste/garbage. The scheme has an outlay of Rs 46.11 crore for Ninth Plan. During 1997-98, funds amounting to Rs 355.55 lakh were released to the different States/UTs for strengthening of 48 soil testing laboratories, setting up four mechanized compost plants and organising 26 training on bio-composting. During 2000-2001, funds amounting to Rs 278.44 lakh were released for establishment of two compost plants, strengthening/setting up of 24 soil testing laboratories and organisation of 14 trainings/seminars. With effect from 4 October 2000 the scheme has been subsumed in Macro-Management Mode of implementation which envisages that States/UTs can pursue programmes of the scheme through their Work Plans.

The Government has issued Fertilizer (Control) Order, 1985 under the Essential Commodities Act, 1955. This Order contains specifications of fertilizers being sold in the country, methods of sampling and analysis as well as provision for appointment of enforcement agencies for regulating the trade and distribution of fertilizers. There are 66 fertilizer quality control laboratories in various States with a total analysing capacity of 1,20,115 samples per annum. The Government has been implementing a Central Sector Scheme on strengthening of Central Fertilizer Quality Control and Training Institute (CFQC&TI) since the Fourth Five Year Plan. During the Ninth Plan, the scheme is being implemented with an outlay of Rs 6.80 crore. The institute organises training programmes for State Enforcement Officers, Fertilizer Analysts and for trainees from developing countries. During the Eighth Five Year Plan, 34,662 fertilizer samples were analysed and 61 training programmes for fertilizer inspectors and analysts, 178 orientation courses and 105 dealers training programmes were conducted by CFQC&TI, Faridabad and its regional laboratories. Training courses for fertilizer dealers are also being organized in collaboration with the State governments and fertilizer industry.

SOIL AND WATER CONSERVATION

Soil and Water Conservation measures are one of the essential inputs for increasing agricultural output in the country. These programmes were first launched during the First Plan. From the very beginning emphasis has been on development of technology for problem identification, enactment of appropriate legislation and constitution of policy coordination bodies. While conceptual framework of soil and water conservation activities has not changed, concept of programmes has undergone considerable revision during successive Five Year Plans.

At present the River Valley Project scheme is being implemented in 33 catchments having total treatable area of 18.02 million hectares out of total catchment area of 71.95 million hectares. Since inception up to the end of 1999-2000 an area of 3.93 million hectares has been treated with various soil and water conservation measures. Similarly, Flood Prone River Scheme is being implemented in 12 catchments having total catchment area of 24.26 million hectares and treatable area of 7.89 million hectares out of which 1.20 million hectares has been treated till the end of 1999-2000.

A Centrally-sponsored scheme of reclamation of alkali soils was taken up in Punjab, Haryana and Uttar Pradesh during the Seventh Five Year Plan. The scheme was further extended to the states of Gujarat, Madhya Pradesh and Rajasthan during the Eighth Five Year Plan. During Ninth Plan, CCEA had approved to extend the scheme to all other States where alkali soil problem exists, as per scientific parameters. The scheme aims at improving physical conditions and productivity status of alkali soils for restoring optimum crop production. The major components of the scheme include assured irrigation water on farm development works like land levelling, bunding and ploughing, community drainage system, application of soil amendment, organic manures, etc. An area of 0.65 million hectares out of 3.58 million hectares of alkali land has been reclaimed till the end of 2000-2001 in the country.

Another project for alkali land reclamation and development has been taken up in Uttar Pradesh and Bihar with the help of EEC at an estimated cost of Rs 85.80 crore out of which Government of India's share is Rs 6.08 crore. The project came into existence during 1993-94 and is likely to be completed by 2001. The project envisages reclaiming 15,000 hectares of alkali soils. An area of 30,825 hectares has been reclaimed till the end of 2000-2001.

The scheme of Watershed Development Project in Shifting Cultivation Areas (WDPSCA) was launched in seven north-eastern States with an outlay of Rs 45 crore during the Eighth Plan from 1994-95 with 100 per cent Central assistance to the State Plan. The scheme aims at overall development of *jhum* areas on watershed basis. The scheme picked up momentum from 1996-97 onwards. During the Eighth Plan an amount of Rs 40.826 crore was released to the states of north-east region for treating 0.81 lakh hectares area through treatment packages. As on March 2001, 1.21 lakh hectares has been treated with an expenditure of Rs 65.55 crore. The new guidelines of the scheme on the basis of new watershed to common approach has been effective from 14 November 2000 in the revised cost norms of Rs 10,000 per hectare on net treatable area basis with additional activities and improved institutional mechanism. During the Ninth Plan 1.20 lakh hectares have been targeted to be treated with an expenditure of Rs 75 crore.

AGRICULTURAL IMPLEMENTS AND MACHINERY

FARM MECHANISATION

The Government programmes relating to Agricultural Implements & Machinery

have been oriented to promote farm mechanisation and make improved agricultural implements and modern machines available to the farmers throughout the country with a view to increasing the agricultural production and minimising the drudgery associated with various farm operations. Farmers are being provided assistance for owning agricultural machinery including tractors. The infrastructure for human resource development for agricultural mechanisation has been expanded with a view to imparting skill oriented training in the proper selection, operation, repair/maintenance and management of Agricultural machinery. Besides, farm implements and machines are tested at the Farm Machinery Training and Testing Institutes for evaluating their performance characteristics and upgrading their quality.

However, despite a progressive increase in the use of agricultural machines, its sustainable benefits towards agricultural development have not been uniform in as much as the improvement has mostly been in the northern states and in a few pockets/areas in other states where irrigation facilities have been developed.

Although animal and human power continue to be the important power sources in agriculture, yet the power-driven machines, namely, tractors, power-tillers and combine harvesters, have been in the first line of agricultural mechanisation. Fuel-efficient tractors and better-quality farm machines are now available in the country. The Government efforts have found expression in a substantial increase in the use of agricultural machines by the farmers. During 2000-2001 the sale of tractors and power tillers was 2,54,825 and 16,018 respectively. The sale of other agricultural equipments has also increased considerably.

During the Ninth Plan, emphasis has been given to the promotion of improved animal/power-driven implements, power tillers and tractors. Water management has also been given greater attention and the water saving devices, *viz.*, sprinkler and drip irrigation system have been promoted through oilseeds, pulses, sugarcane and horticultural development programmes. The schemes have also given a fillip to the promotion of agricultural mechanisation in the country.

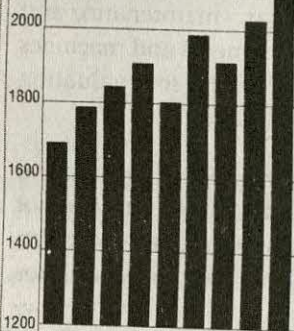
FARM MACHINERY TRAINING AND TESTING INSTITUTES

Farm Machinery Training and Testing Institutes set up at Budni (Madhya Pradesh), Hissar (Haryana), Garladinne (Andhra Pradesh) and Biswanath Chariali (Assam) have the capacity of training 3,500 personnel on various aspects of farm mechanisation and testing of about 70 machines annually. Since inception about 64,623 personnel have been trained and about 1,575 machines tested by these institutes. During 2000-2001, these institutes trained 4,357 personnel and tested 80 machines. The Government have sanctioned setting up of another Farm Machinery Training and Testing Institute in Tamil Nadu.

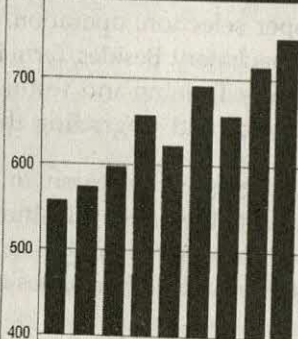
AGRICULTURAL PRODUCTION

(In Lakh Tonnes)

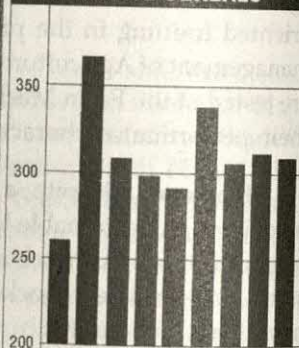
FOODGRAINS



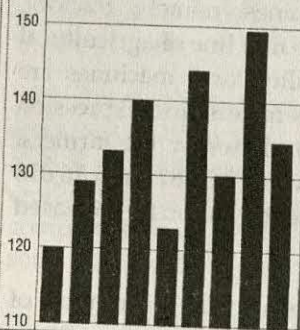
WHEAT



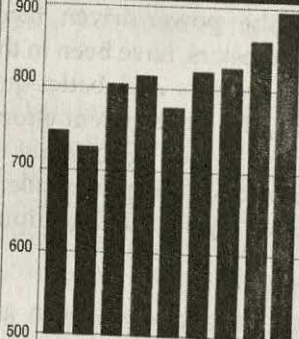
COARSE CEREALS



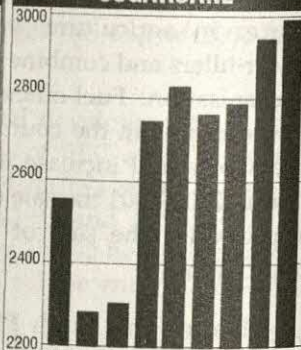
PULSES



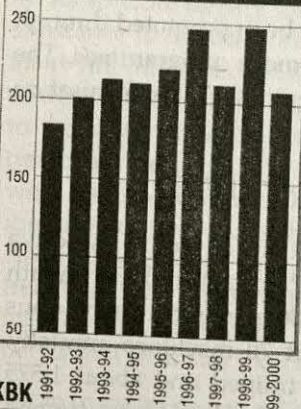
RICE



SUGARCANE

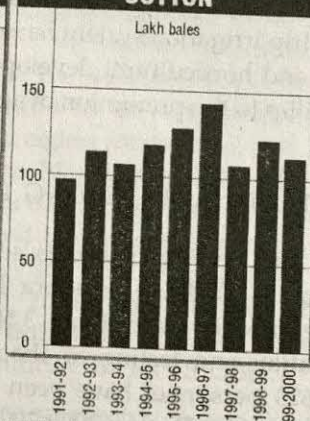


OILSEEDS



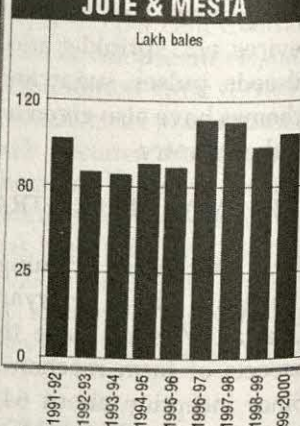
COTTON

Lakh bales



JUTE & MESTA

Lakh bales



PROMOTIONAL EFFORTS ON MECHANISATION

Productivity of farms *inter alia*, depends on the availability and judicious utilisation of power by the farmers. Agricultural implements and machines have been promoted through various Government sponsored schemes under which financial incentives are available to the farmers for the purchase of agricultural equipments. Major emphasis has been given for field demonstration of rice transplanter, rice-bed planter, etc. A sum of Rs 150 lakh has been provided for the purpose under the Ninth Plan. A scheme "Conduct of Study and formulation of long Term Mechanisation strategies" for each agro climatic zone of the country has been launched with an outlay of Rs 130 lakh.

STATE AGRO INDUSTRIES CORPORATIONS

The State Agro Industries Corporations (SAICs) have been set up to act as catalyst for providing to the farmers access to the various inputs for agriculture. SAICs have since expanded their basic function by commencing the manufacture and marketing of agricultural inputs, implements and machines, after sales service and promotion and development of agro-based industries. Seventeen SAICs were set up with equity participation of Government of India. In addition, Government of Manipur and Pondicherry have set up their own SAICs without equity participation of the Government of India. The turnover of 15 SAICs during 1998-99 was Rs 2,066.15 crore (provisional).

PLANT PROTECTION

Plant Protection strategy has been reoriented and Integrated Pest Management (IPM) has been adopted as cardinal principle and main plank of plant protection since Seventh Plan. IPM is an eco-friendly approach aimed at minimal use of chemical pesticides by employing available alternative methods for pest control like cultural, mechanical, biological and use of bio-pesticides. Emphasis on human resource development is one of the main features of this programme. To achieve this, the Government of India have organised IPM demonstrations in rice, cotton, vegetables, oilseeds and pulses by setting up 6,733 Farmers Field Schools (FFSs) and trained 28,459 agricultural extension officers and 2,03,032 farmers in the various techniques of IPM since 1994.

Plant quarantine activities are intended to prevent introduction of exotic pests and diseases into the country as well as for the control/containment of exotic pests and diseases which have already been introduced, by adoption of suitable domestic plant quarantine measures. This is achieved by implementation of the provisions of Destructive Insects and Pests Act, 1914 (DIP Act, 1914) and the Plants, Fruits and Seeds (Regulation of Import into India) Order, 1989, issued thereunder. Besides, the work pertaining to Post Entry Quarantine inspection/surveillance in respect of the identified plants/planting material in pursuance to the New Policy on Seed Development, has

been assigned to the Designated Inspection Authorities (DIAs') who are the scientists of the SAUs. The export certification and issuance of Photo-sanitary Certificate (PSC) is undertaken by the Plant Quarantine Stations. Five regional Plant Quarantine Stations at Mumbai, Kolkata, Chennai, Amritsar and National Plant Quarantine Station at New Delhi have been strengthened under UNDP Project in view of increased import and export of agricultural commodities under WTO provision.

The National Plant Protection Training Institute, Hyderabad conducted 27 plant protection courses to impart training to 482 personnel during 2000-2001. Continued liaison is maintained with locust-prone countries and the FAO to keep watch for the invasion of locusts. The Locust Warning Organisation (LWO), Jodhpur with its five circle offices and 23 outposts monitors two lakh sq km Scheduled Desert Area in Rajasthan, Gujarat and Haryana for locust surveillance and control.

NATIONAL WATERSHED DEVELOPMENT PROJECT FOR RAINFED AREAS

National Watershed Development Project for Rainfed Areas (NWDPR) was launched in 1991 in 25 States and two Union Territories. The project continued during Ninth Five Year Plan with the purpose of increasing agricultural productivity and production in rainfed areas through sustainable use of natural resources.

The programme measures under NWDPR include: (i) Treatment of arable and non-arable lands; (ii) Treatment of drainage lines; and (iii) Production systems in arable and non-arable lands with emphasis on multiple/mix/strip cropping preferably of legume components, organic farming, dryland horticulture, agro-forestry, silvi pasture, livestock management and household production systems. The project *inter alia* provides for suitable institutional framework for promoting people's participation, management of common property resources, etc., with the help of such watershed/village based institutions.

NWDPR has been considerably restructured with greater decentralisation and community participation, higher degree of flexibility in choice of technology and suitable institutional arrangements for ensuring long-term sustainability. During the Eighth Plan 4.3 million ha. was developed through implementation of 2,554 watershed projects with an expenditure of Rs 971.52 crore. During the Ninth Plan, it is targeted to treat 2.25 million ha. of rainfed areas at a cost of Rs 1,020 crore.

WATERSHED DEVELOPMENT FUND

A Watershed Development Fund (WDF) has since been established at NABARD with the objective of integrated watershed development in 100 priority districts through participatory approach. The total corpus of the WDF is Rs 200 crore. The fund will be utilised to create the necessary framework

conditions to replicate and consolidate the isolated successful initiatives under different programmes in the Government, semi-government and NGO sectors. The WDF is to be operationalised in close coordination with the Central and State Ministries and Departments as a continuum of their efforts but with a distinct identity, and contribution by NABARD and the Government of India financially and managerially. Utilising WDF mode of assistance by NABARD, it is contemplated to have a spread of the programme in 14 States. In the first phase the WDF will be accessible to Andhra Pradesh, Maharashtra, Gujarat, Madhya Pradesh, Orissa and Uttar Pradesh.

WORLD BANK-AIDED WATERSHED DEVELOPMENT PROJECTS

Integrated Watershed Development Projects (IWDP) (Hills-Phase-I & Phase-II): On the completion of the IWDP-Hills Phase-I on 31 March 1999 utilising IDA credit of US \$66.54 million (Rs 285.62 crore) accomplishing treatment of 1.96 lakh ha., the IWDP-Hills-Phase-II has been launched at an estimated cost of US\$ 193 million equivalent to Rs 954.60 crore (IDA credit will be US \$ 135 million). The objective is to restore the productive potential of the Shivalik Hills in the States of Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab and Uttaranchal using cost effective watershed treatment technologies and community participation approach.

Assam Rural Infrastructure and Agriculture Support Project : This project being implemented since 1995 at a cost of Rs 567.65 crore will end in 2003. The objective is to alleviate poverty and accelerate agriculture growth through improved use of resources.

Uttar Pradesh Diversified Agriculture Support Project : This project was launched in 1998 with an estimated cost of Rs 699 crore (US \$ 160.50 million) for a period of seven years. The objectives are to increase agricultural productivity, promote private sector development and improve infrastructure.

EUROPEAN ECONOMIC COMMUNITY ASSISTED PROJECTS

Doon Valley Project : The objective of the project is to arrest and reverse ongoing degradation of Doon Valley Environment. The project launched in April 1993 will be completed by December 2001. The project has 37,400 ha. as treatable area with an outlay of Rs 82.95 crore.

GERMAN KFW ASSISTED PROJECT

German Kreditanstalt for Wiederaufbau (KFW) assisted Integrated Watershed Management Project with a project cost of Rs 55.08 crore (DM 24 million) is being implemented in Karnataka to treat an area of 53,633 ha. The programme being implemented since 1996 with the participation of six NGOs will run up to the year 2002. KFW assisted Watershed Development in Maharashtra is being implemented through NABARD since 1992. The cost of the project is Rs 19.73 crore with KFW assistance of DM 12 million. The project is being implemented with participation of NGOs.

DANIDA AIDED PROJECTS

Comprehensive Watershed Development Project - Tirunelveli, Tamil Nadu: The project was launched in 1990-91 with assistance from DANIDA and continued as phase-II since 1994. The objectives of the project are to arrest further erosion of degraded land, to develop sustainable and cost effective utilisation of several types of land, to create long-term employment opportunities for farmers and landless agricultural labourers. The main components of the project are survey, extension and training, planting of shelter belts, establishment of demonstration plots, etc. So far, an expenditure of Rs 19.25 crore has been incurred in the second phase.

Comprehensive Watershed Development Project—Ramanathapuram, Tamil Nadu : This project was launched in 1994-95. The objectives of the project are to enable land users in priority watersheds to practise dry land agriculture, range management, horticulture and forestry including conservation and use of natural resources. The project components are formulation of village project committee leaders, training in nursery raising and borewell maintenance, ploughing, production and distribution of seedlings, establishment of shelter belts, soil and moisture plots, etc. The total project cost is Rs 13 crore. So far, an expenditure of Rs 8.10 crore has been incurred.

Comprehensive Watershed Development Project—Karnataka: This project was launched in 1990-91 with assistance from DANIDA involving a total cost of Rs 13.35 crore. This project is being implemented in the districts of Belgaum and Dharwad in Karnataka. The major components are soil and water conservation, afforestation, training, survey, studies and research. DANIDA has agreed for a second phase of this project which started from 1997 at a cost of Rs 21 crore to run up to 2004. So far an expenditure of Rs 1.56 crore has been incurred.

Comprehensive Watershed Development Project—Koraput, Orissa: This project was launched in 1993-94. The objectives of the Project are to establish sustainable and locally acceptable land use systems to improve the living conditions of rural poor without overexploiting the natural resources. The main components of the project are soil and water conservation measures, mix tree plantations, training and demonstrations, etc. The total cost of the project is Rs 13.25 crore. The expenditure, so far, is Rs 7.08 crore.

Comprehensive Watershed Development Project—Madhya Pradesh : The five-year project is being implemented from March 1997 at a cost of Rs 13.15 crore. It covers about 4,000 ha. area in Jhabua, Dhar and Ratlam districts of Madhya Pradesh. So far an expenditure of Rs 1.15 crore has been incurred under this project.

CROP PRODUCTION PROGRAMME

For sustainable agriculture and increasing overall production of cereals, States and Union Territories are assisted through Centrally-sponsored schemes on

(i) Integrated Cereals Development Programme in Wheat-based Cropping Systems Areas (ICDP-Wheat); (ii) Integrated Cereals Development Programme in Rice-based Cropping Systems Areas (ICDP-Rice); and (iii) Integrated Cereals Development Programmes for Coarse Cereals based on Cropping Systems Areas (ICDP—Coarse Cereals). In addition, in order to popularise new varieties, Seed Mini-kits Programme on Rice, Wheat and Coarse Cereals is also being implemented. Similarly, for the development of commercial crops, the programmes implemented are: Centrally-sponsored Intensive Cotton Development Programme (ICDP)—merged with the Technology Mission on Cotton, Sustainable Development of Sugarcane-based Cropping Systems and Special Jute Development Programme.

For the development of cereals, cropping system approach has been adopted since 1994-95. The emphasis in the crop-oriented programmes is on field demonstrations and farmers' training for transfer of technologies, popularisation of Integrated Pest Management (IPM) and Integrated Nutrient Management, propagation of high-yielding varieties, supply of farm implements to build resource base for the farmers. Farmers are assisted under various components of the schemes implemented in the concerned State/UT. These programmes and also the sustained efforts made by our farmers have helped to increase production of cereals, cotton and sugarcane during the Ninth Plan, as compared to the Eighth Plan.

CROP PRODUCTION

Area, production and yield of principal crops of selected years is shown in table 15.1.

TECHNOLOGY MISSION ON OILSEEDS, PULSES AND MAIZE

The Technology Mission on Oilseeds has achieved a major breakthrough in the production of oilseeds. The oilseeds sector has grown to be a major foreign-exchange earner for the country. During 1998-99 export worth Rs 3,028 crore was made of oilseed, castor oil, groundnut, oilmeals, sesame and Niger seed. For increasing the production of oilseeds, the implementation of Centrally-sponsored Oilseeds Production Programme (OPP) is being continued during the Ninth Five Year Plan also with enhanced assistance.

Maize has also been included in the Technology Mission in 1995 in view of the versatility of the crop and its importance as a foodgrain, animal feed and an industrial raw material. For increasing the production of maize, Accelerated Maize Development Programme (AMDP) has been formulated during the Eighth Five Year Plan which is proposed to be implemented during the Ninth Plan.

To augment the availability of edible oil, Oil Palm Development Programme was introduced in the Eighth Plan for which an area of eight lakh hectares has been found suitable in the 11 selected states, out of which an area of 44,000 hectares has been brought under plantation up to 1998-99.

HORTICULTURE

Horticulture includes a wide range of crops, namely, fruits, vegetables, tuber crops, flowers, medicinal and aromatic plants, mushrooms, plantation crops, spices, etc., being grown in varied agro-climatic conditions of temperate, sub-tropical and arid zones.

Horticulture development in the country continues to make steady progress in the production and export of agricultural products. India has emerged as second largest producer of fruits and second largest producer of vegetables after China. India has first position in production of mango, coconut, cashewnut, spices, etc. India is the largest exporter of cashewnut and provides about 40 per cent of the world's total production. India's share in the world trade in spices is around 18 per cent. India is the largest producer of ginger, turmeric and accounts for 65 per cent and 76 per cent respectively of the total world's production.

The area under coconut in 1998-99 was 19.08 lakh hectares and the production 14,925 million nuts. With this, India has emerged as the largest producer of coconut in the world. The crop sustains nearly 10 million families, contributes 5-6 per cent of the total vegetable oil pool in the country and earns a foreign exchange of Rs 200 crore annually through the exports of coir and coir products. About 88 per cent of the coconut production is accounted for by the states of Kerala, Tamil Nadu, Andhra Pradesh and Karnataka. Coconut cultivation is catching up in non-traditional areas like the north-eastern States, Madhya Pradesh, Bihar, etc.

The area under cashew was 6.86 lakh hectares and production 5.2 lakh tonnes in 1999-2000. Kerala, Tamil Nadu and Andhra Pradesh are the major cashewnut producing states. India is the world's leading producer and exporter of cashew accounting for nearly 50 per cent of the world's demand.

The role of horticulture has been fully recognised for having high potential for diversification of horticulture, better land use with improved productivity and higher income per unit area for the farmers. Besides, it provides nutritional food to millions of people and better employment opportunities.

ANIMAL HUSBANDRY

Animal Husbandry and Dairy development plays a prominent role in the rural economy in supplementing the income of rural households, particularly, the landless and small and marginal farmers. It also provides subsidiary occupation in semi-urban areas and more so for people living in hilly, tribal and drought prone areas where crop output may not sustain the family. The employment in the livestock sector was approximately 9.8 million in principal status and approximately 8.6 million in subsidiary status. Animal husbandry output constitutes about 23 per cent of the country's agricultural output. According to estimates of national accounts, the gross value of output for livestock sector

during 1999-2000 was about Rs 1,30,233 crore as against the total value of output of Rs 5,59,406 crore for the agriculture sector.

India is endowed with the largest livestock population in the world. It accounts for 57 per cent of the world's buffalo population and 15 per cent of the cattle population. According to the Livestock Census (1992), the country has about 20.5 crore cattle and 8.4 crore buffaloes as compared to 15.5 crore cattle and 4.3 crore buffaloes in 1951. Thus the population of buffaloes has almost doubled since independence. The population of poultry birds has also increased about fourfold since 1951.

CATTLE AND BUFFALO DEVELOPMENT

India possesses 27 acknowledged indigenous breeds of cattle and seven breeds of buffaloes. India's cattle are resistant to diseases especially to tropical animal's diseases like tick-born and protozoan infections. But the fact that nearly 80 per cent of the cattle and 60 per cent of the buffaloes do not belong to any defined breed makes a strong case for their genetic upgradation on priority basis. Various Central and Centrally-sponsored schemes are being implemented for genetic improvement of cattle and buffalo with a view to enhance the per capita availability of consumption of milk through increased milk production. Efforts are also made to protect and preserve the indigenous cattle and buffalo in their native tract, which are facing threat of extinction. The elite animals are selected and registered on the basis of their performance for production of superior pedigree bulls, bull-mothers, frozen semen and frozen embryos for future breeding improvements. To achieve this the advanced embryo transfer technology is also applied in breeding operations.

The National Project for Cattle and Buffalo Breeding envisages 100 per cent grant in aid to implementing agencies. By end of the Phase I of the project, which will spill over the Tenth Plan, the project will bring under its coverage over 70 per cent of the total adult females among cattle and buffalo which is more than three times the present coverage. The Project will also promote about 14,000 private Artificial Insemination (AI) practitioners and build up an annual frozen semen production capacity of 66 million doses. During the first year of Phase-I (2000-2001), Andhra Pradesh, Arunachal Pradesh, Haryana and Punjab have been assisted for participating in the National Project. By end of 2001-2002 all major States are likely to participate in the project.

The seven Central cattle breeding farms at Suratgarh (Rajasthan), Chiplima and Semiliguda (Orissa), Dhamrod (Gujarat), Hessarghatta (Karnataka), Alamadi (Tamil Nadu) and Andeshnagar (Uttar Pradesh) are engaged in scientific breeding programmes of cattle and buffaloes and production of high pedigreed bulls and frozen semen for cattle/buffalo breeding projects. These farms produced 362 bull calves and supplied 126 high pedigreed bulls for use under Artificial Insemination Programme in the states. Frozen Semen Production & Training Institute, Hessarghatta (Karnataka) supplied 8.79 lakh doses of frozen semen of high pedigreed Holstein Friesian

TABLE 15.1 : AREA, PRODUCTION AND YIELD OF PRINCIPAL CROPS—ALL INDIA

Crops		A-Area in lakh hectares P-Production in lakh tonnes Y-Yield in kg per hectare									
		1950-51	1960-61	1970-71	1980-81	1990-91	1995-96	1996-97	1997-98	1998-99	1999-2000
1		2	3	4	5	6	7	8	9	10	11
Rice	A	308.10	341.28	375.92	401.52	426.87	428.37	434.33	434.46	448.02	449.72
	P	205.76	345.74	422.25	536.31	742.91	769.75	817.37	825.35	860.77	894.75
	Y	668	1,013	1,123	1,336	1,740	1,797	1,882	1,900	1,921	1,990
Wheat	A	97.46	129.27	182.41	222.79	241.67	250.11	258.87	266.96	275.23	274.34
	P	64.62	109.97	238.32	363.13	551.34	620.97	693.50	663.45	712.88	755.74
	Y	663	851	1,307	1,630	2,281	2,483	2,679	2,485	2,590	2,755
Jowar	A	155.71	184.12	173.74	158.09	143.58	113.26	114.31	108.01	97.94	103.98
	P	54.95	98.14	81.05	104.31	116.81	93.27	109.34	75.28	84.15	88.63
	Y	353	533	466	660	814	823	956	697	859	852
Bajra	A	90.23	114.69	129.13	116.17	104.76	93.19	99.80	96.68	92.97	88.55
	P	25.95	32.83	80.29	53.43	68.94	53.81	78.65	76.44	69.56	56.57
	Y	288	286	622	458	658	577	788	791	748	639
Maize	A	31.59	44.07	58.53	60.05	59.04	59.79	62.60	63.21	62.04	64.27
	P	17.29	40.80	74.86	69.56	89.62	95.34	107.69	108.16	111.48	114.73
	Y	547	926	1,279	1,159	1,518	1,595	1,720	1,711	1,797	1,785
Total	A	782.30	920.18	1,017.82	1,042.10	1,031.73	987.32	1,011.34	1,009.76	1,016.70	1,018.86
Cereals	P	424.14	693.14	966.04	1,189.62	1,621.25	1,681.05	1,851.92	1,792.79	1,887.70	1,955.2
	Y	642	753	949	1,142	1,571	1,703	1,831	1,775	1,856	1,919

Table 15.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Gram	A	92.76	78.39	65.84	75.21	71.16	68.47	75.63	84.69	63.05
	P	62.50	51.99	43.28	53.56	49.79	55.66	61.32	68.01	50.82
	Y	674	663	657	712	700	813	811	803	806
Total	A	245.63	225.34	224.57	246.62	222.83	224.47	228.71	235.01	211.90
Pulses	P	127.04	118.18	106.27	142.65	123.10	142.44	129.79	149.07	133.50
	Y	539	524	473	578	552	635	567	634	630
Total	A	1,155.81	1,243.16	1,266.70	1,278.35	1,210.15	1,235.80	1,238.47	1,251.67	1,230.59
Foodgrains	P	820.18	1,084.22	1,295.90	1,763.90	1,804.15	1,994.40	1,922.59	2,036.07	2,088.75
	Y	710	872	1,023	1,380	1,491	1,614	1,552	1,627	1,697
Groundnut	A	64.63	73.26	68.01	83.09	75.24	75.96	70.88	73.96	68.65
	P	48.12	61.11	50.05	75.15	75.79	86.43	73.72	89.82	53.10
	Y	745	834	736	904	1,007	1,138	1,040	1,214	774
Rapeseed	A	28.83	33.23	41.13	57.82	65.46	65.45	70.41	65.13	60.70
& Mustard	P	13.47	19.76	23.04	52.29	60	66.58	47.03	56.64	59.58
	Y	467	594	560	904	916	1,017	668	870	982
Total Nine ¹	A	137.70	166.44	176.03	241.48	259.64	263.38	261.24	262.29	243.73
Oilseeds	P	69.82	96.30	93.72	186.09	221.06	243.85	213.25	247.48	208.72
	Y	507	579	532	771	851	926	816	944	856
Sugarcane	A	24.15	26.15	26.67	36.86	41.47	41.74	39.30	40.55	42.25
	P	1,100.01	1,263.68	1,542.48	2,410.46	2,811	2,775.60	2,795.41	2,887.22	2,990.36
	Y	45,549	48,322	57,844	65,395	67,787	66,496	71,134	71,203	70,780

Table 15.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Cotton (Lint) ²	A	76.10	76.05	78.23	74.40	90.35	91.21	88.68	93.42	87.59
	P	56.04	47.63	70.10	98.42	128.61	142.31	108.51	122.87	116.44
	Y	125	106	152	225	242	265	208	224	226
Jute ³	A	5.71	7.49	9.41	7.18	7.37	8.97	9.06	8.48	8.50
	P	33.09	49.38	65.08	79.17	76.75	99.61	99.60	88.37	94.17
	Y	1,043	1,186	1,245	1,833	1,875	1,998	1,978	1,875	1,995
Mesta ³	A	274	331	359	239	189	204	201	177	186
	P	11.29	12.55	16.52	13.11	11.32	11.69	10.57	9.74	11.13
	Y	742	684	828	988	1,078	1,030	949	990	1,078

¹ Nine oilseeds, viz., Groundnut, Castorseed, Sesamum, Nigerseed, Soyabean, Sunflower, Rapeseed & Mustard, Linseed & Safflower

² Production in lakh bales of 170 kg each

³ Production in lakh bales of 180 kg each

Jersey and Murrah bulls to different states and trained 149 veterinarians in frozen semen technology during 2000-2001.

POULTRY DEVELOPMENT

The poultry production in the country has made significant progress over the years due to research and development thrust of the Government and organised private sector. Egg production during 1999-2000 was 31.5 billion and is expected to go up to 32 billion during 2001-2002 as compared to 10 billion during 1980-81. Currently, India ranks fifth in egg production in the world.

Central poultry breeding farms at Mumbai, Bhubaneswar, Hessarghatta and Chandigarh are engaged in scientific poultry breeding programme; and have developed high egg producing hybrid and fast growing broiler strains and are supplying parent stock chicks. Central Duck Breeding Farm at Hessarghatta is catering to requirements of high egg producing *Khaki* Campbell breeding stock and fast growing meat type ducklings to various States/Union Territories. Four random sample poultry performance testing centres at Bangalore, Mumbai, Bhubaneswar and Gurgaon conduct egg-laying and broiler tests and provide useful information to poultry farmers, hatcheries and breeding organisations about performance of various participating layer and broiler stocks in the country (both from public/private sector organisations). Central Poultry Training Institute at Hessarghatta is imparting short-term practical courses in different disciplines of poultry. Regional Feed Analytical Laboratories at Chandigarh, Mumbai and Bhubaneswar provide feed analysis facilities to farmers, public and private-sector organisations.

During 2000-2001, 0.23 lakh egg-type and 0.45 lakh meat-type parent chicks were sold at the Central Poultry Breeding Farms and 1.18 lakh ducklings were produced at Central Duck Breeding Farm, Hessarghatta. Concomitantly diversifications of activities have also been taken up by introducing quail, guinea fowl and turkey. During Ninth Plan, a new scheme for developing backyard poultry for small farmers has been taken up in the North-Eastern States including Sikkim. The scheme is being extended to other States during the current financial year.

SHEEP DEVELOPMENT

There are about 51 million sheep and 115 million goats in the country. About five million households in the country are engaged in the rearing of small ruminants (sheep, goats and rabbits) and other allied activities. The main reasons for low productivity are poor exploitation of genetic potential of indigenous animals, low absorption of available technology, inadequate resource of feed and fodder, insufficient health cover, inadequate marketing and credit support, etc. The estimated wool production was about 460 lakh kg during 2000-2001.

Central Sheep Breeding Farm, Hissar is producing acclimatised exotic/cross bred superior quality rams. The farm has supplied 2,881 rams during Ninth Five Year Plan to different States. Under the national ram/buck production programme and programme for rabbit development Central-assistance is being provided to State governments on 50:50 basis for

strengthening sheep/goat/rabbit farms and state wool boards and to assist them in improving genetic potential of small ruminants.

MEAT PRODUCTION/PROCESSING AND EXPORT

A Centrally-sponsored scheme "Assistance to States for modernisation/improvement of abattoirs and establishment of carcass utilisation centres and primary hide flaying units" is being implemented during the Ninth Plan period. The objectives of the scheme are to provide wholesome and hygienic meat, gainful utilisation of animal byproducts, prevention of environmental pollution and cruelty to animals. During 2000-01, under 'Modernisation of Slaughter Houses' component of the scheme, financial assistance of Rs one crore has been provided for projects at Agra and Shahbad, district Hardoi (Uttar Pradesh), Jaipur and Itanagar. Under the component 'Establishment of Carcas Utilisation Centres' an amount of Rs 1.20 crore has been released for projects at Bardoli (Gujarat), Itanagar, Jodhpur and Raipur.

India's earnings from meat export during 1999-2000 were Rs 706.42 crore from buffalo meat, Rs 90.89 crore from sheep/goat meat, Rs 4.58 crore from animal castings and Rs 54.25 crore from processed meat.

PIGGERY DEVELOPMENT

There are more than 128 lakh pigs in the country of which approximately 14.5 per cent are graded and exotic variety. There are about 158 pig breeding farms in the country run by the State governments/Union Territories. Exotic breeds like Large White Yorkshire, Hampshire and Landrace are maintained at these farms. These farms breed pigs and supply piglets, boars and sows to the farmers for crossbreeding and improvement of *desi* stock and also provide free training to the farmers and entrepreneurs.

A Centrally-sponsored scheme namely, Assistance to States for Integrated Piggery Development, is being implemented for strengthening the pig breeding farms in the States. During the Ninth Plan up to 2000-01 an amount of Rs 1,265.75 lakh has been released for strengthening the pig breeding farms in various States.

FEED AND FODDER DEVELOPMENT

For improvement of vast livestock resources through proper scientific methods, availability of nutritious feed and fodder is essential. To make available scientific fodder production technology, seven regional stations have been established in different agro-climatic zones namely, at Hissar (Haryana), Kalyani (West Bengal), Gandhinagar (Gujarat), Alamadi (Tamil Nadu), Hyderabad (Andhra Pradesh), Suratgarh (Rajasthan) and Shehama (Jammu & Kashmir). These are also engaged in production and propagation of certified quality fodder seeds. During 1999-2000 these stations produced 199 MT of fodder seeds and conducted 1,680 field demonstrations of new fodder varieties.

A Central fodder seed production farm at Hessarghatta produced 221 MT seeds of different varieties of fodder grasses/legumes during 2000-2001 and conducted 150 field demonstrations of new fodder varieties. A Central

minikit demonstration programme of fodder crops is under implementation for popularising high yielding fodder varieties on a large scale. About 3.45 lakh minikits were ordered for distribution during the year 2000-2001.

There is a Centrally-sponsored scheme, *viz.*, Assistance to States for Feed and Fodder Development which aims at providing assistance to States for strengthening of State Fodder Seed Farms, establishment of fodder banks, enrichment of straw and cellulosic waste, establishment of silvipasture system, grassland development and sample survey for area production and requirement, etc., in fodder crops.

During 2000-2001, financial assistance of Rs 30 lakh has been provided for strengthening of four farms, three in Arunachal Pradesh and one in Karnataka; Rs 63.112 lakh released for establishment of three fodder banks, one each in Arunachal Pradesh, Maharashtra and Karnataka; Rs 95.28 lakh provided for enrichment of straw/cellulosic waste in Himachal Pradesh, Gujarat and Karnataka; Rs 28 lakh provided for establishment of silvi-pasture system in Himachal Pradesh and Karnataka; Rs 81.60 lakh provided for grassland development including grass reserves in Sikkim, Maharashtra, Arunachal Pradesh and Nagaland and Rs two lakh provided for sample survey for area, production and requirement of fodder crops to Maharashtra.

DAIRY DEVELOPMENT

Dairy Development has played a major role in increasing milk production, improving the nutritional standards of the people, generating employment opportunities, improving income level in rural areas, especially for small and marginal farmers. The Indian Dairy Industry acquired substantial growth during the Eighth Plan, achieving an annual output of over 69 million tonnes of milk. India's milk output during 2001-02 is expected to reach the level of 85 million tonnes. This has not only placed the industry first in the world, but also represents sustained growth in the availability of milk and milk products for the burgeoning population of the country. The Government of India has implemented three schemes in the dairy sector during 2000-2001. These are :

(a) Integrated Dairy Development Projects in Non-Operation Flood, Hilly and backward Areas : The scheme launched during the Eighth Plan has been continued during the Ninth Plan with an outlay of Rs 250 crore as a Central sector scheme. The scheme with 100 per cent grant-in-aid has been converted into a Centrally-sponsored scheme from 2000-01. So far 44 projects with an outlay of Rs 227.49 crore have been sanctioned in 22 States and one UT. A sum of Rs 154.46 crore has been released to various State governments up to 30 March 2001 and 131 districts have been covered. The scheme has benefited about five lakh farm families and organised about 6,400 Village Level Dairy Cooperative Societies till 31 March 2001.

(b) Assistance to Cooperatives : The scheme aims at revitalising the sick dairy cooperative unions at the district level and co-operative federations at the State level. The scheme was approved in January 2000 with a Ninth Plan outlay of Rs 150 crore. Rehabilitation proposals of four milk unions in Madhya Pradesh, two in Karnataka, one in Uttar Pradesh and one in Kerala with a total

outlay of Rs 69.83 crore have been approved. An amount of Rs 20.80 crore was released by 31 March 2001; and

(c) Milk and Milk-Product Order - 1992 : The Government of India notified the Milk and Milk Product Order on 9 June 1992. As per the provisions of this order, any person/dairy plant handling more than 10,000 litres per day of milk or 500 MT of milk solids per annum, needs to be registered with the registering authority appointed by the Central Government on 27 August 1993. The Order was amended to register units handling up to 75,000 litres of milk per day or 3,750 MT of milk solids per annum by the State Government. The Central registering authority is granting registration for units handling more than 75,000 litres of milk per day or 3,750 MT of milk solids per annum. Registrations to 274 units with combined capacity of 519.94 lakh litre per day were granted by the Central registering authority up to March 2001.

FISHERIES

Fisheries play an important role in the economy of India. It helps in augmenting food supply, generating employment, raising nutritional level and earning foreign exchange. The Department of Animal Husbandry and Dairying has been undertaking directly and through State governments/UT administrations various production, input supply and infrastructure development programmes and welfare-oriented schemes besides formulating/initiating appropriate policies to increase production and productivity in the fisheries sector.

Fish production since 1993-94 is shown in the table below :

Year	(lakh tonnes)		
	Marine	Inland	Total
1993-94	26.49	19.95	46.44
1994-95	26.92	20.97	47.89
1995-96	27.07	22.42	49.49
1996-97	29.67	23.81	53.48
1997-98	29.50	24.38	53.88
1998-99	26.96	25.66	52.62
1999-2000	28.34	28.23	56.57

DEVELOPMENT OF INLAND FISHERIES

In recognition of the important role of inland fisheries in overall production of fish, the Government has been implementing an important programme in inland sector, namely, Development of Freshwater Aquaculture through the Fish Farmers Development Agencies (FFDAs). These agencies provide a package of technical, financial and extension support to fish farmers. A network of 422 FFDAs is functioning now covering all potential districts of the country. During 2000-01, about 30,000 ha of water area was brought under fish culture and 20,000 fish farmers were trained in improved aquaculture practices through FFDAs.

DEVELOPMENT OF MARINE FISHERIES

The Government is providing subsidy to poor fishermen for motorising their traditional craft, which increases the fishing areas and frequency of operation with consequent increase in catch and earnings of fishermen. About 38,000 traditional crafts have been sanctioned for motorisation so far. The Government has also been operating a scheme of reimbursing the Central excise duty on HSD oil used by fishing vessels below 20m length to offset the operational cost, incurred by small mechanised fishing boat operators benefitting about 18,000 fishing vessels per year.

BRACKISHWATER AQUACULTURE

The objective of the scheme is to utilise the country's vast brackishwater area for shrimp culture. So far, an area of about 22,857 hectares has been developed for shrimp culture. Presently, 39 Brackishwater Fish Farmers Development Agencies (BFDAs) functioning in the coastal areas of the country, provide a package of technical, financial and extension support to shrimp farmers. Guidelines prepared for sustainable development and management of brackishwater aquaculture have been circulated to all maritime States and UTs and other agencies. The guidelines incorporate measures for mitigating the adverse impact, if any, of shrimp farming on the coastal ecosystem. An aquacultural authority has been established under the Environment Protection Act to control the coastal aquaculture and to ensure that the aquaculture activities are carried out in an environment friendly and sustainable manner.

DEVELOPMENT OF FISHING HARBOURS

Six major fishing harbours, *viz.*, Cochin, Chennai, Visakhapatnam, Roychowk, Paradip and Sessoon dock (Mumbai), 33 minor fishing harbours and 130 fish landing centres have been constructed. Ten minor fishing harbours and 31 fish landing centres are under construction to provide landing and berthing facilities to fishing crafts.

WELFARE PROGRAMMES FOR TRADITIONAL FISHERMEN

Important programmes for the welfare of traditional fishermen are : (i) Group Accident Insurance Scheme for active fishermen; (ii) Development of Model Fishermen Villages; and (iii) Saving-cum-Relief Scheme. From 2000-2001, fishermen are being insured for Rs 50,000 against death or permanent disability and Rs 25,000 against partial disability. Annual premium is shared equally between the Centre and the State. About 12.29 lakh fishermen were insured during 2000-01. Under the programme of Development of Model Fishermen Villages, 49,000 houses have been sanctioned for fishermen. Besides, tube wells and community halls have been provided. Under the Saving-cum-Relief component, the marine fishermen contribute Rs 75 per month for eight months. This amount is returned to them during the four-month lean period along with an equal contribution from the Government, at the rate of Rs 300 per month. In case of inland fishermen, the monthly contribution is Rs 50 per month for nine months and the fishermen get Rs 300 per month for three months.

SPECIALISED INSTITUTES

The Central Institute of Fisheries Nautical and Engineering Training, Kochi, with units at Chennai and Visakhapatnam, aims at making available sufficient number of operators of deep-sea fishing vessels and technicians for shore establishments. The Institute has an intake capacity of about 200 trainees per year. Integrated Fisheries Project, Kochi, envisages processing, popularising and test marketing of unconventional varieties of fish. The Central Institute of Coastal Engineering for Fisheries, Bangalore, is engaged in techno-economic feasibility study for location of fishing harbour sites. Fishery Survey of India (FSI) is the nodal organisation responsible for survey and assessment of fishery resources under the Indian Exclusive Economic Zone (EEZ). It has seven operational bases at Mumbai, Porbander, Kochi, Mormugao, Visakhapatnam, Chennai and Port Blair.

AGRICULTURAL CENSUS

The Department of Agriculture and Cooperation has been organising Agricultural Census in India on quinquennial basis since 1970-71 in collaboration with the States/UTs as a part of the World Agricultural Census programme in pursuance of the recommendations of the Food and Agricultural Organisation (FAO). So far five agricultural census' with reference years 1970-71, 1976-77, 1980-81, 1985-86 and 1991-92 have been completed and the Sixth Agricultural Census with reference year 1995-96 is in progress. Seventh Agricultural Census with reference year 2000-2001 (Agricultural year), which will be followed by an Input Survey with reference year 2000-2001 is at planning stage. Agricultural Census seeks to collect essential and reliable information on the distribution of holdings and area operated along with the related characteristics such as tenancy and terms of leasing, land use and cropping pattern, irrigation and source of irrigation, etc., by different size classes and social groups. The data is used for formulation of poverty alleviation programmes in general and relief to small and marginal farmers in particular.

An Input Survey, as a part of Agricultural Census Scheme, is also being conducted since 1976-77 on quinquennial basis. Input Survey provides useful information on consumption of various inputs such as fertilizers, pesticides, manures, agricultural machinery and implements and flow of credit to the agricultural holdings. So far four Input Surveys with reference years 1976-77, 1981-82, 1986-87 and 1991-92 were conducted successfully. The target during 1999-2000 was : (i) to complete the field work of Agricultural Census 1995-96 in all States/UTs; (ii) to finalize the All India Bulletin in Input Survey 1991-92; (iii) to complete the field work of Input Survey 1996-97; (iv) to complete the data entry work of Schedules of Agricultural Census 1995-96; and (v) release of funds.

The achievement during the year has been : (i) field work of Agricultural Census 1995-96 is nearing completion; (ii) all results of Input Survey 1991-92 have been finalized; (iii) field work of Input Survey 1996-97 is nearing completion; (iv) data entry work is in full swing; and (v) funds have been

Agriculture

released as per the guidelines issued by the Department of Agriculture and Cooperation.

AGRICULTURAL RESEARCH AND EDUCATION

The Department of Agricultural Research and Education set up in 1973 in the Ministry of Agriculture is responsible for coordinating research and educational activities in agriculture, animal husbandry and fisheries. Besides, it helps to bring about inter-departmental and inter-institutional collaboration with national and international agencies engaged in the same and allied fields. The Department provides government support, service and linkage to the Indian Council of Agricultural Research (ICAR).

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

Indian Council of Agricultural Research (ICAR), the main organisation under the Department of Agricultural Research and Education (DARE) of the Ministry of Agriculture, has played a pivotal role in developing agricultural technologies, input material and critical scientific base leading to self-sufficiency in food. The ICAR is an autonomous apex body at national level, which promotes science and technology programmes in the areas of agricultural research, education and extension education. The Council is directly involved in undertaking fundamental as well as applied researches in the traditional and frontier areas to offer solutions to problems relating to the conservation and management of resources and productivity of crops, animals, fisheries, etc. The activities of the ICAR are organised into eight subject matter divisions, namely, Crop Sciences, Horticulture, Natural Resource Management, Agricultural Engineering, Animal Sciences, Fisheries, Agricultural Extension and Agricultural Education.

AGRICULTURAL RESEARCH

The research set-up of ICAR comprises 47 Central Institutes, five National Bureaux, 30 National Research Centres, nine Project Directorates and 80 All India Coordinated Research Projects (AICRPs). For higher education in agriculture and allied fields there are four deemed to be universities, 33 state agricultural universities (SAUs) and one Central Agricultural University at Imphal.

CROP SCIENCE

During 2000-2001 the total food grain production was 196.07 million tonnes. The production of rice and wheat was 86.30 million tonnes and 68.46 million tonnes respectively. With these production levels, India is the second largest producer of rice in the world. Development and adoption of improved technologies particularly improved varieties possessing high yield, resistance to important diseases and pests, have played a major role in enhancing crop production and productivity. Significant increase in yield has been achieved: four fold in wheat, three fold in rice, maize and cotton, two fold in sugarcane, sorghum and oilseeds since independence. Over 3,000 high yielding varieties/hybrids of various field crops have been released. India is also the first in the world to have developed hybrid cotton, pearl millet (grain), castor and

pigeon pea and second to develop hybrid rice. Promising hybrids have also been developed in sorghum and sunflower.

In rice, so far more than 600 high yielding, early-to-very early maturing, dwarf, disease and pest resistant varieties have been evolved. Significant high yielding rice varieties developed includes *Vivek Dhan 62* and *Vivek Dhan 82* for Uttaranchal and Himachal Pradesh. Varieties have also been recommended for saline-alkaline area such as *CSR 27* and *CSR 30*. New hybrids such as *Pro Agro 6201*, *APRH 2*, *KRH 2*, *CORH 2*, *Pant Shankar Dhan 1*, *Narendra Shankar Dhan 2* and *Sahyadri* are some of promising hybrids recommended for different states. First fine grain rice hybrid *Pusa RH-10* has also been recommended for western Uttar Pradesh, Delhi and Haryana.

Wheat contributes 36 per cent to country's total food grain basket. More than 260 high yielding, disease and pest resistant wheat varieties having good quality grains suitable for cultivation in different agro-climatic conditions have been evolved and released for cultivation. The latest improved varieties for the irrigated areas are *PBW 343*, *PBW 396*, *Shreshtha*, *UP 2425* for North-West Plains Zone. Variety *PBW 343* occupies more than 85 per cent area in Punjab. This variety has also done fairly well in eastern part of the country. Durum wheat, used for making instant food, has high export potential in Middle East, South Africa and Mediterranean countries. *HD 4672*, *HI 8331*, *PDW 215*, *PDW 233*, *WH 896* and *Malav Shakti* are recent varieties of durum wheat having excellent grain quality.

In maize, more than 130 composites and hybrids with high yields have been developed so far. Some of the early maturing hybrids are *Vivek Maize hybrid 9*, *Pusa Early hybrid Makka-3*, *JH 3459*, *KHMH 175*, *Kohinoor* and *Aravali Makka 1*. Two quality protein maize hybrids namely *Shaktiman-1* and *Shaktiman-2* have been recommended for the state of Bihar. *Shaktiman-1* has also been released for Uttar Pradesh. They are suitable for using as baby food, poultry feed and piggy industry.

More than 430 improved varieties and hybrids of different pulse crops have been released for cultivation under different agro-climatic situations. The production of pulses has increased from 8.16 mt in 1949-50 to 13.35 mt during 1999-2000. Major breakthrough has been achieved in the development of short duration varieties of pigeon pea, *urdbean*, *mungbean* and chickpea which have paved the way for their introduction in different cropping systems as well as non-traditional areas. Disease resistant varieties in chickpea, pigeon pea, *mungbean*, *urdbean*, field pea and lentil have also been developed which have resistance against major diseases.

A number of improved varieties of oilseeds were released during the last one year. These include sunflower hybrid *MLSFH 47*, castor hybrid *DSH 177*, double purpose linseed varieties *Meera* and *Parvan* and seed purpose linseed varieties *Sheela* and *Shekhar*, groundnut variety *LGN 2* and soyabean varieties *Ahilya 4*, *Parbhani Soya*, *Indira Soya 9* and *Hara Soya*. Sunflower hybrid *MLSFH-47* is resistant to downy mildew and castor hybrid *DSH 177* is resistant to wilt and white fly. Groundnut variety *LGN 2* is tolerant to sucking pests and suitable for early sowing under rainfed conditions in

Gujarat and southern Rajasthan. Soyabean variety *Hara Soya* released for north hill zone (Himachal Pradesh and Uttaranchal) is suitable for culinary purpose.

In cotton India is the only country to have developed and grown hybrid cotton commercially—both the long-stable premier hybrid cotton *H4* and the extra-long staple interspecific *Varalaxmi* and *DCH 32*. *Suvin* gives the finest-quality cotton with spinning performance of 120s counts. It is comparable with *Giza 45*, the best Egyptian cotton. The latest additions are early-maturing hybrids, *Fateh*, *Dhanlaxmi* and *Rajhans* for Punjab, Haryana and Rajasthan, the northwest region. Production and plant protection technologies for the crop are near perfect. In addition, hybrids such as *Om Shankar LH4144* and *AAH 1* for North Zone, *PKV Hy 3*, *PKV Hy 4* and *JK Hy 2* for central zone and *Surya*, *Sruthi*, *DHB 105* and *DHB 11* for south zone have also been released for commercial cultivation.

For maintenance of agro-biodiversity and for broadening of the genetic base through improved varieties for enhancing productivity, the National Bureau of Plant Genetic Resources (NBPGR) had carried out plant explorations, and could collect 14,333 accessions from different states. A total of 18,902 germplasm accessions and 65,602 samples in nurseries/trials from the Consultative Group of International Agricultural Research and 35 countries were procured. During the year, 429 samples of different crops were exported to 16 countries. About two lakh accessions have so far been stored in the National Gene Bank.

For control of insect pests and diseases continued efforts were made for the promotion of Integrated Pest Management (IPM) approach in crops. Major thrust was given to Management of Pesticide use in various crops as an integral part of IPM programme. Significant progress has been made in recent years to develop and demonstrate IPM concepts and techniques with major focus on cotton, rice, pulses, oilseeds, sugarcane, citrus, grapes and vegetables. Bio intensive IPM modules have been developed for various crops. Success has also been achieved in quality production of NPV and its extended use in many crops for the control of *Helicoverpa* and *Spodoptera* pests.

HORTICULTURE

India is the second largest producer of fresh fruits and vegetables in the world. India ranks first in the world for production of mango and banana. The five fruits mango, banana, citrus, guava and apple account for 75 per cent of total fruit production in the country. Concerted research efforts have led to the development of dwarf, regular bearing mango hybrids, free from spongy tissue; thereby leading to marked increase in production and export of mango. *Dasheri 51*, a regular bearing and high yielding cultivar, has been developed by selection. A new mango variety, *CISH M-1* has been identified for release as an export potential. In guava, variety *Lalit* is superior in production and quality of fruits. In banana, 18 improved varieties have been identified for commercial cultivation. In pomegranate, variety *Amlidana* has been released for *anardana* purpose.

In vegetables, improved hybrids of tomato, cabbage, cauliflower, onion, radish, brinjal and chilli have been developed to ensure their availability round the year. Forecasting models for late blight of potato have been developed for western Uttar Pradesh, predicting disease appearance within 10 days of the forecast. In tropical tuber crops development of two cassava hybrids *Sree Rekha* and *Sree Prabha* is significant. The know-how for starch based biodegradable plastic technology, its demonstration and training have been imparted to four licensees. In mushroom, two high yielding strains of summer white button mushrooms (*NCB-6* and *NCB-13*) yielding 15 kg fresh mushroom have been released for commercial cultivation. Mushroom ketchup with an excellent taste/aroma can be prepared from fresh mushrooms.

In plantation crops, a process for making snowball tender nut has been developed involving dehusking of the nut, groove making in the shell and scooping out a tender kernel in a ball shape without any breakage by using a scooping tool. Cashew *Goa-1* has been identified for release in Goa. In spices, two varieties of black pepper (*Panniyur-6* and *Panniyur-7*), one variety of cardamom (*RR-1*) three varieties of coriander (*RCr-684*, *RCr-435*, *RCr-436*), two varieties of fenugreek (*Guj Methi 1* and *RMT-303*) and one variety each of cumin (*Guj Cumin-3*) and fennel (*RF-101*) have been identified and recommended for release.

NATURAL RESOURCE MANAGEMENT

For efficient and integrated management of country's natural resources, greater emphasis is laid on soil resource inventory and development of appropriate agricultural technologies. With this in view, soil resources of different states are delineated to Agro-Ecological Zones (AEZ) and sub-regions. For example, 31 agro-ecological sub-regions in Rajasthan give information on various land use and pasture, agri-pasture, silvipasture and agri-silvipasture. Soil resource maps for Tamil Nadu, Jammu & Kashmir, Assam, Delhi and Goa (1:2,50,000) scale were prepared for micro level planning. Soil resource Atlas for Maharashtra, Madhya Pradesh depicting soil series is developed for district level planning giving thematic map on soil and climatic resources, its distribution, characterization and priorities.

Crop growth modelling was applied to predict groundnut production in Punjab region as well as simulate the yield level of mustard in Gujarat. Similarly studies on drought occurrence and management of rainfed rice have predicted yield as well as incidence of major pests. For better resource conservation and management, tillage practices for erosion control and increasing crop productivity in sandy loam and reclaimed ravine land were identified including zero tillage treatment.

Evaluation of watershed management projects were taken up earlier in different parts of India (Kota-Rajasthan, Bajni - Bundelkhand, Relmajra - Chandigarh, etc.). These projects have changed the land use pattern and introduced farming practices with higher gross cropped area (50-60 per cent increase) and higher crop productivity (2-4 times). There has been significant increase in number of wells, gross irrigated and crop diversification helping farmers to have more income which lead to higher investment in agriculture

by the farming community. Emphasis was given to integrate plant nutrient requirement in rice-wheat cropping system with the soil test based balanced application of chemical and organic fertilizers. More and more emphasis were given for organic source of fertilizers through inoculation of *Rhizobium/Bradyrhizobium* with PGPR's, viz., *Azospirillum* or *Pseudomonas*.

The production techniques and development of different agroforestry models were perfected through agronomic management and introducing different spacing of tree species. Agri-horti systems consisting field crops like maize, black gram, till intercropped with *ber* (cv. *Seo*) along with conservation practices consistently yielded higher fruit and combined crop yield than sole crop. Silvipasture and hortipastoral system with *aonla*, *ber*, *karonda* are found as better fruit trees with higher fodder yield.

AGRICULTURAL ENGINEERING

A large number of farm equipment for tillage, interculture, spraying, harvesting and threshing have been developed. Recently a raised bed planter and vegetable planter have been developed for sowing wheat and vegetable respectively. Efforts are being made to develop sugarcane harvester and 2-row cotton picker.

For processing of produce, a number of post-harvest equipments have been developed, namely, seed cleaner, seed grader, *dal* mill, paddy sheller, maize sheller, groundnut decorticator, arecanut dehusker, fruit harvester, honey extractor, portable kinnow grader, oil expeller, vegetable washing machine, lac scrapper, cleaner-cum-grader for spices, fruit grader, power operated garlic bulb-breaker, chilli seed extractor, water chestnut decorticator, cassava peeling knife, banana slicer, potato peeler, grain-flour separator, fruit and vegetable dehydrator, grain dryer, soy-cereal slurry dryer, fluidized bed dryer for mushrooms, foot operated ginning machine, etc. Technologies for production of soy-pander and soy-fortified biscuits have been commercialized. Processes equipment for production of solid, liquid and granular jaggery have been developed. Diversified products based on jute and cotton such as, blended yarns for decorative fabrics, blended non-woven for fire retardining, jute composites, safari suiting from cotton and ramie have been developed. Similarly lac based insulating materials, varnishes, coating compositions have also been developed. Use of plastics in agriculture has been tried out successfully for activities like packaging, covered cultivation and aquacultural operations. Agro-processing models are being set up in different parts of the country for primary processing of produce.

Studies on renewable energy sources have been conducted and a large number of solar gadgets, such as solar grain dryer (chilli and paddy), solar fruit and vegetables dehydrator, solar water heater, solar collector, improved cooking stove, multi-rack solar dryer, etc., have been developed. Wood based Gasifiers have been developed for production of producer gas. Different types of biogas plants for plains and hilly areas have been developed. A solar chilli dryer with biomass based gasifier as a back-up unit has been developed.

Energy audit for different farm operations for crop production,

horticultural crops, animal raising, fisheries and rural household, etc., have been determined to suggest economically viable alternatives. Energy balance studies in different agro-climatic regions to assess energy scenario of agricultural production system on whole village basis were done. Various drainage technologies such as surface, sub-surface, recharge of excess water through recharge-cum-discharge wells, multi-well point system, raised bed (Dorjon) method of cultivation, design and incorporation of drainage structures, etc., have been demonstrated and adopted in the farmers' fields on a small as well as large scale.

ANIMAL SCIENCE

At National Bureau of Animal Genetic Resources (NBAGR) livestock census data bank has been integrated with the information system on Annual Genetic Resources of India (AGRI-IS) which is available on CD medium. Breed calendars for 30 breeds of indigenous cattle and 10 breeds of indigenous buffalo were developed. Genetic characterization of *Sahiwal* breed of cattle was carried out using 20 highly polymorphic FAO recommended primers. DNA finger printing analysis was also carried out on *Barbari* and *Jamunapari* goats. For promoting poultry production, development of synthetic broiler for male line with white colour plumage was undertaken. For promoting backyard poultry, *Vanaraja*, *Grampriya* and *Carigold* strains were supplied to the farmers of tribal areas.

A national level data base information system on animal feed resources has been developed at National Institute for Animal Nutrition & Physiology (NIANP), Bangalore. Physiological behaviour of *Yak* and *Mithun*, the rare animals of North-Eastern Region were studied. New byproducts resources which may become potential feed supplement are under trial in the Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Punjab and Tamil Nadu.

An IgM based ELISA test has been developed to detect antibodies to EHV-1 as early as seven days post vaccination (DPV) as against 14/21 DPV by conventional ELISA technique. A milk based bovine brucellosis ELISA kit has been indigenously developed for screening the milk samples collected from the village milk producers' cooperative societies to identify infected village and to develop strategies for its control-eradication. For field diagnosis of swine fever, an AGP test kit was standardized. A dot ELISA based on soluble antigen of *Brucella mellitensis* biovar-1 isolated from goat was developed. It would help in minimizing the detection of false positive reactions.

Manufacturing process for an instant rice-based *kheer* mix was developed. The mix with a shelf life of approximately six months at ambient temperature, received a high acceptance rating in a consumer study. The cost of production is Rs 47.30/package of 500g (enough for reconstituting to 10 servings). A good quality mozzarella cheese making process was optimized utilizing concentration factor (CF) 12, pH 6, skim milk microfiltration retentate and butter oil to produce low-moisture and low-cholesterol mozzarella cheese. Ready-to-serve soft drink from sweet-cream butter milk was developed. It is

more nutritious and cheaper compared to carbonated soft drinks. The technology is useful not only for utilization of butter milk into nutritious consumer acceptable product but also for prevention of pollution caused due to drainage of butter milk. Dehydrated *paneer* of longer shelf life through application of hot diffusion/cold diffusion treatment and microwave drying have been developed. The shelf life of pander was enhanced to 65 days in metallized polyester and 80 days in cryovac vacuum packaging.

Good quality restructured rolls were produced utilizing buffalo meat. Buffalo meat product in retortable pouch was developed. Quality and yield of patties produced from kid meat and spent goat meat indicated that the latter was a better raw material of choice for production of patties. Rabbit meat patties were prepared by dry heat method and rabbit meat nuggets were prepared by moist heat method.

FISHERY SCIENCE

With about 5.5 million tonnes of fish production (both from marine and inland water resources), India ranges first among Commonwealth countries and seventh in the world. Our country is one of the biggest exporters of seafood in the world.

Breeding technologies for commercially important air breathing and non-air breathing carps, catfishes, sea bass and hilsa have been perfected. Technology developed for repeated spawning of indigenous carps and air-breathing cat fishes twice or even thrice in a year, as also advancing or delaying or off season spawning, have revolutionised the fish breeding and production. Composite fish culture has revolutionised inland fisheries. The yield of ponds has increased from 50 kg/hectare/yr in the sixties to the current level of 2,000 kg/hectare/yr. ICAR scientists have developed improved Rohu Carps through genetic selection. Masher is being successfully conserved as a game and food fish in the higher altitude water bodies.

Post Harvest Technology and improved transportation have transformed traditional fish processing in India into a blue chip industry. Technologies have been developed for utilization of fish discards and discarded fish. These are: production of chitin and chitosan from crustacean waste for a variety of uses in pharmaceuticals, textile, cosmetics and paint industry. Absorbable surgical sutures have been developed from gut collagen of fish for eye and other micro-surgery.

AGRICULTURAL EDUCATION

The Council aids, promotes and coordinates agricultural education programmes at national level. The educational programmes are carried out by 33 State Agricultural Universities (SAUs), one Central Agricultural University at Imphal and four National Institutes namely Indian Agricultural Research Institute, New Delhi; Indian Veterinary Research Institute, Izatnagar; National Dairy Research Institute, Karnal and Central Institute of Fisheries Education, Mumbai which are deemed to be universities. In addition three Central universities-Banaras Hindu University, Vishva Bharati and Aligarh Muslim University also have strong programmes in agricultural education. These

institutions provide for UG education in eleven fields of specialization in 193 constituent colleges with an intake capacity of about 10,000 students annually. Degrees are awarded in agriculture, veterinary sciences, agricultural engineering, forestry, home science, horticulture, food science, dairy technology, fisheries, sericulture and agricultural marketing. There are 65 disciplines in which specialization at the PG programmes are available.

Thirty-five Centres of Advance Studies (CAS) have been established in different disciplines to promote researches in cutting edge areas of science and to develop trained human resource in these areas. The CAS conducts 2-3 weeks free training by inviting applications from SAUs and ICAR Institutes. The Council provides scholarships and fellowships to students, 300 at UG level and 475 at PG level. Project on Home Science is striving to sensitize and support empowerment of rural women.

Recognising the importance of education as an instrument for economic and social change, the ICAR in partnership with the World Bank, developed the Agricultural Human Resource Development (AHRD) project at the total project cost of 74.2 million dollars from 14 August 1995. The focus of the project is to improve the quality and relevance of higher agricultural education and to strengthen the capacity of ICAR institutions and participating three states to develop and manage agricultural human resources. Besides ICAR, development departments of Andhra Pradesh, Haryana and Tamil Nadu and their four State Agricultural Universities participated in the first phase of the project. The AHRD Phase-I has made significant contributions. New accreditation system has been developed and operationalised. New courses, *viz.*, computer application, bio-statistics, biodiversity, biotechnology, agri-business management, marketing, environmental sciences, etc., have been incorporated in all the degree programmes. Rural Agricultural Work Experience (RAWEx), Internship and In-plant Training programmes have been made compulsory for six months for all UG students. Besides, nearly 3,000 scientists are being trained annually and 1,055 scientists have been trained internationally so far. Other areas which have gained through AHRD Phase-I include database for manpower in different disciplines of Deemed University Institutes and State Agricultural Universities and establishment of HRD/HRM Units in State Departments of Agriculture.

AGRICULTURAL EXTENSION

The Council plays a facilitatory role in the assessment and refinement of technologies and evaluation of its impact in all disciplines of research conducted in the system in order to find the appropriateness of various agricultural technologies for the farmers, extension functionaries and other agencies involved in the development of agriculture. The Council has 261 Krishi Vigyan Kendras (KVKs) located in various states at present. Besides this 53 zonal Agricultural Research Stations in different parts of the country have also taken up additional function of KVK. These KVKs perform on farm testing/research, vocational training of farmers, farm women and rural youth, in service training of grass-root level field functionaries and frontline demonstrations. These KVKs are district-level institutions run by the SAUs,

ICAR institutes and selected non-governmental organisations. Each year about 2.5 lakh farmers are trained at the KVKs in the areas of crop husbandry, horticulture, animal husbandry and dairying, fisheries and allied vocations leading to self-employment. Eight Trainers' Training Centres (TTCs) are subject specific training institutions in dryland agriculture, horticulture, agricultural engineering, inland fisheries, marine fisheries, hill agriculture, dairying and home science. Training is imparted to KVK scientists and subject matter specialist of the development departments by the TTCs to update their knowledge in the frontier areas of agricultural technologies.

The Council has also launched an innovative project called 'Institution-Village-Linkage Programme (IVLP)' to ensure greater scientists-farmers linkage. IVLP also ensures access to agricultural technology generated by the agricultural research system in the country to the entire farming community in a village or a cluster of villages representing around 1,000 farm families. So far the project is in operation in 70 centres.

COOPERATIVES

The Cooperative Sector has been playing a significant role in the area of disbursing agricultural credit, providing marketing support to farmers, distribution of agricultural inputs, imparting cooperative education and training. The cooperatives are helping the farmers for increasing the production and productivity and instituting post harvest facility for augmenting their income. The cooperative sector in India emerged as one of the largest in the world with 5.04 lakh societies with a membership of 20.9 crore and working capital of Rs 2,27,111.8 crore as on 31 March 2000. Almost 100 per cent villages are covered under the cooperative fold and about 67 per cent of the rural household are the members of the cooperative institutions. The Department of Agriculture & Cooperation is implementing various Central sector and Centrally-sponsored schemes for the promotion and development of the cooperatives in the country.

NATIONAL AGRICULTURAL TECHNOLOGY PROJECT

The National Agricultural Technology Project (NATP) is being jointly implemented by the ICAR and the Department of Agriculture and Cooperation with the World Bank support for a total cost of Rs 950 crore. The objectives of NATP are to address national issues such as: (i) national and household food security; (ii) poverty alleviation and equity; (iii) environmental quality and conservation of bio-diversity; (iv) sustainability in the use of natural resources; (v) product diversification to enhance rural income; (vi) welfare of tribal people, women and other disadvantaged groups and; (vii) exploitation of commercially viable technologies and enhancing export potential. NATP supports research programmes under Team of Excellence (ToE), Mission Mode (MM), Production System Research (PSR), Institute Village Linkage Programme (IVLP) and Competitive Grants Programmes (CGP). These programmes revolve around eight thematic areas such as National Resource Management, Biotechnology, IPM, etc.

Under the Innovations in Technology Dissemination (ITD) programme, 53 Zonal Research Stations (ZRS) are remanded to take up additional function of KVKs. Forty Agricultural Technology Information Centres (ATICs) have been established for providing single window support system linking various units of research institutions in ICAR/SAUs. In addition, eight Directorates of Extension Education in SAUs and 29 Zonal Coordinating Units are being strengthened. Agricultural Technology Management Agencies (ATMAs) have been established in 24 districts in Andhra Pradesh, Bihar, Himachal Pradesh, Maharashtra, Orissa and Punjab. The State Agriculture Management and Extension Training Institutes (SAMETIs) are being strengthened to train farmers and extension workers. Strategic Research and Extension Plans (SREPs) for the selected districts have been finalised for planning interventions. The NATP is heading towards implementation of the diverse activities planned under the Project.

INTERNATIONAL COOPERATION

To promote bilateral cooperation in the field of agricultural research, Department of Agricultural Research and Education (DARE) has signed Memorandum of Understanding (MoU)/agreements with various countries. Presently, DARE has institutional arrangements with Philippines, Cuba, Iran, Vietnam, USA, Australia, Tunisia, Trinidad and Tobago, Oman, Peru, Israel, Uganda, Egypt, Namibia and Uzbekistan. In addition, ICAR has concluded MoUs with 34 international organisations. The MoUs are implemented through exchange of scientists, germplasm and scientific literature and through collaborative research projects. The details of the activities proposed to be undertaken are included in a work plan prepared with the consent of both the parties for two years normally.

AGRICULTURAL MARKETING

DIRECTORATE OF MARKETING AND INSPECTION

The Directorate of Marketing and Inspection (DMI) under the Ministry of Agriculture, since 19 December 1998, advises the Central and State governments on agricultural marketing policies and programmes and implements various schemes under them. It has its head-office at Faridabad, branch head-office at Nagpur, five regional offices, 37 sub-offices and 27 laboratories spread all over the country.

The DMI administers the Agricultural Produce Grading and Marketing Act, 1937 as amended in 1986. The grade standards notified under the Act are popularly known as *Agmark* standards and such standards have been formulated and notified under the Act in respect of 162 agricultural and allied produce. As a result of special efforts initiated to increase grading under *Agmark*, 609 new packers were enrolled during 1998-99. During 1999-2000 (up to August 1999), commodities valued at Rs 39.80 crore were graded for export. Agricultural commodities worth Rs 1,864 crore were graded under *Agmark* up to August 1999 for domestic trade.

The DMI undertakes marketing, research, surveys and in-depth studies of marketing system for various agricultural commodities in the country and suggests remedial measures. Marketing Planning and Design Centre (MPDC) of DMI prepares State Master Plan for the development of Agricultural Produce Markets and imparts training to the personnel of State governments/Marketing Boards. So far, DMI has brought out 325 reports on market surveys for various agricultural and allied commodities. DMI is also implementing a Scheme of Research Grants. 35 research studies are being carried out on subjects related to marketing. Under this scheme, an amount of Rs 10.38 lakh was released to various research institutions/universities during 1999-2000. 21 Research Studies were completed during 1998 and 1999. The DMI is implementing the Meat Food Products Order, 1973 which stipulates ensuring quality control and hygienic manufacturing conditions of meat food products for domestic consumption. The Order is applicable all over the country. A total of 159 licences have been issued to the manufacturers operating under the Order.

The DMI carries out extension and publicity work among producers and consumers through various mass media. The DMI participated in India International Trade Fair, 1999 and AHARA-99 in New Delhi and organised exhibitions at Bhopal and Vijaywada. A quarterly journal "Agricultural Marketing" is brought out by DMI for the benefit of farmers, traders and consumers.

DMI, Faridabad has a sub-office at Guwahati catering to the requirements of Agmark and quality control for internal trade in the north-eastern states. It is proposed to set up an Agmark laboratory at Shillong.

NATIONAL INSTITUTE OF AGRICULTURAL MARKETING

The National Institute of Agricultural Marketing (NIAM) started functioning at Jaipur with effect from 8 August 1988. It has been imparting training to senior and middle-level executives of agricultural and horticultural departments, Agro Industries Corporations, commodity and apex level cooperatives, commodity boards, export houses recognised by APEDA, commercial banks, NGOs as also to the farmers on marketing management.

During 1999-2000 (up to 9 December 1999) NIAM conducted 25 training programmes. NIAM has taken up long-term projects for the formulation of master plans for the development of agricultural markets in Jammu & Kashmir, Andhra Pradesh and Sikkim. NIAM in collaboration with Institute of Rural Management Anand (IRMA), has undertaken a research project on the formulation of integrated action plan for the promotion of handicrafts and handlooms in Uttar Pradesh and West Bengal.

16 Water Resources

WATER is vital for realising the full potential of the agriculture sector and the country's development. Optimum development and efficient utilisation of our water resources, therefore, assumes great significance.

The Ministry of Water Resources lays down policies and programmes for development and regulation of the country's water resources. It covers sectoral planning, coordination, policy guidelines, technical examination and techno-economic appraisal of projects, providing Central assistance to specific projects, facilitation of external assistance and assistance in the resolution of inter-state water disputes, policy formulation, planning and guidance in respect of minor irrigation, command area development and development of ground water resources, etc.

The National Water Policy, adopted in September 1987, stresses that 'Water' is a prime natural resource, a basic human need and a precious national asset. Planning and development of water resources need to be governed by national perspectives. Since the adoption of the National Water Policy in 1987, a number of issues and challenges have emerged in the development and management of the water resources sector. Accordingly, the National Water Board at its meeting on 29 October 1998 reviewed the existing National Water Policy 1987, considered proposed changes, and finalised the draft updated National Water Policy. The draft Policy was deliberated upon at the meeting of the National Water Resources Council (NWRC) held under the chairmanship of the Prime Minister, on 7 July 2000. There was consensus on most of the important issues contained in the proposed updated National Water Policy but some areas of differences still remained. In short these are: (i) Provision for enactment of a suitable legislation for modern information system; (ii) Provision for "Setting up of River Basin Organisations with statutory powers"; and (iii) Provision of a para on "Water allocation amongst the States".

A Working Group of the National Water Resources Council under the chairmanship of Union Minister of Water Resources with Irrigation/Water Resources Ministers of States/Union Territories as its members was constituted on 9 October 2000 to examine the draft updated National Water Policy and draft National Policy Guidelines for Water Allocation amongst the States. The first meeting of the Working Group was held on 22 May 2001 and a Core Group under the chairmanship of Union Minister of State for Water Resources with the Irrigation/Water Resources Ministers from Andhra Pradesh, Bihar, Goa, Karnataka, Punjab, Rajasthan and Tamil Nadu as its members was constituted to arrive at a consensus on the provisions of the draft.

WATER RESOURCES POTENTIAL

The average run-off in the river system of the country has been assessed as 1,869 km³ (cubic kilometers). Of this, the utilisable portion by conventional storage and diversion is estimated as about 690 km³. In addition, there is substantial replenishable groundwater potential in the country, estimated at 432 km³. The per-capita availability of water at national level has reduced from about 5,177 m³ (cubic metres) in 1951 to the estimated level of 1,869 m³ in 2000 with great variation in water availability in different river basins.

IRRIGATION DEVELOPMENT

Major emphasis was given in successive five year plans to create extensive irrigation facilities throughout the country. Irrigation support is provided through major, medium and minor irrigation projects and command area development. With sustained and systematic development of irrigation, the irrigation potential created has increased from 22.60 mha at the beginning of the First Plan to about 89.56 mha by the end of the Eighth Plan. During the corresponding period, the utilisation of irrigation potential increased from 22.60 mha to about 80.76 mha. During the first three years of the Ninth Plan (1997-2000) additional irrigation potential of about 5.17 mha (provisional) has been created and about 3.94 mha (provisional) has been put to utilisation.

Planwise achievements in creation and utilisation of irrigation potential and groundwater resources of India are given in table 16.1 and table 16.2 respectively.

TABLE 16.1 : PLANWISE POSITION OF IRRIGATION
POTENTIAL CREATED AND UTILIZED

(in million hectares)

Plan	Potential Created				Total	Potential Utilized				Total
	Major & Medium	Minor				Major & Medium	Minor			
		S.W. ¹	G.W. ²	Total			S.W. ¹	G.W. ²	Total	
1	2	3	4	5	6	7	8	9	10	11
Up to 1951 (Pre-Plan)	9.70	6.40	6.50	12.90	22.60	9.70	6.40	6.50	12.90	22.60
I Plan (1951-56)	12.20	6.43	7.63	14.06	26.26	10.98	6.43	7.63	14.06	25.04
II Plan (1956-61)	14.33	6.45	8.30	14.75	29.08	13.05	6.45	8.30	14.75	27.80
III Plan (1961-66)	16.57	6.48	10.52	17.00	33.57	15.17	6.48	10.52	17.00	32.17
Annual Plans(1966-69)	18.10	6.50	12.50	19.00	37.10	16.75	6.50	12.50	19.00	35.75

IV Plan (1969-74)	20.70	7.00	16.50	23.50	44.20	18.39	7.00	16.50	23.50	41.89
V Plan (1974-78)	24.72	7.50	19.80	27.30	52.02	21.16	7.50	19.80	27.30	48.46
Annual Plans(1978-80)	26.61	8.00	22.00	30.00	56.61	22.64	8.00	22.00	30.00	52.64
VI Plan (1980-85)	27.70	9.70	27.82	37.52	65.22	23.57	9.01	26.24	35.25	58.82
VII Plan (1985-90)	29.92	10.99	35.62	46.61	76.53	25.47	9.97	33.15	43.12	68.59
Annual Plans(1990-92)	30.74	11.46	38.89	50.35	81.09	26.31	10.29	36.25	46.54	72.85
VIII Plan (1992-97)	32.96	56.60	56.60	89.56	28.44		52.32		52.32	80.76
Annual Plan (1997-98) (Provisional)	33.64	57.62		57.62	91.26	28.93	53.05		53.05	81.98
Annual Plan (1998-99) (Provisional)	34.52	58.79		58.79	93.31	29.81	53.78		53.78	83.59
Annual Plan (1999-2000) (Provisional)	35.35	59.38		59.38	94.73	30.47	54.23		54.23	84.70
IX Plan (1997-2002) Targets	42.77	63.84		63.84	106.61	37.15	57.24		57.24	94.39

¹ S.W. : Surface water.

² G.W. : Ground water.

MAJOR AND MEDIUM IRRIGATION PROJECTS

Irrigation projects with a Culturable Command Area (CCA) between 2,000 and 10,000 hectares are classified as medium projects and those with a CCA of more than 10,000 hectares as major projects. The expenditure incurred on major and medium projects and the irrigation potential created during the various plan periods are given in table 16.3. At the beginning of Ninth Plan there were 171 major projects with a spillover cost of Rs 60,806 crore, 259 medium projects with a spillover cost of Rs 5,743 crore and 72 extension, renovation and modernisation projects with a spillover cost of Rs 9,142 crore. They all added up to Rs 75,691 crore involving an additional irrigation potential of about 16.50 mha.

TABLE 16.2 : GROUND-WATER RESOURCE OF INDIA

Sl. No.	States/UTs	Total Replenishable Ground-Water Resource (m.ha.m/Yr.)	Provision for Domestic Industrial & Other Uses (m.ha.m/Yr.)	Available Ground-Water Resource for Irrigation in Net Terms (m.ha.m/Yr.)	Utilisable Ground-Water Resource for Irrigation in Net Terms (m.ha.m/Yr.)	Gross Draft Estimated on Pro rata Basis (m.ha.m/Yr.)	Net Draft (m.ha.m/Yr.)	Balance Ground-Water Resource for Future Use in net terms (m.ha.m/Yr.)	Level of Ground-Water Development (per cent)
1	2	3	4	5	6	7	8	9	10
1.	Andhra Pradesh	3,52,909	0,52,936	2,99,973	2,69,975	1,11,863	0,78,304	2,21,668	26.10
2.	Arunachal Pradesh	0,14,385	0,02,158	0,12,227	0,11,005	-	-	0,12,227	-
3.	Assam	2,24,786	0,33,718	1,91,068	1,71,962	0,20,356	0,14,249	1,76,819	7.46
4.	Bihar	2,69,796	0,40,47	2,29,327	2,06,394	1,17,895	0,82,527	1,46,800	35.99
5.	Chhattisgarh	1,60,705	0,24,106	1,36,599	1,22,939	0,10,925	0,07,647	1,28,952	5.60
6.	Goa	0,21,820	0,00,327	0,01,855	0,01,669	0,00,219	0,00,154	0,01,701	8.30
7.	Gujarat	2,03,767	0,30,566	1,73,199	1,55,881	1,21,895	0,85,327	0,87,872	49.27
8.	Haryana	1,11,794	0,16,769	0,95,025	0,85,523	1,02,637	0,71,846	0,23,179	75.61
9.	Himachal Pradesh	0,02,926	0,00,439	0,02,487	0,02,238	0,00,591	0,00,413	0,02,073	16.63
10.	Jammu & Kashmir	0,04,257	0,06,640	0,37,620	0,33,860	0,00,586	0,00,403	0,37,217	1.07
11.	Jharkhand	0,66,045	0,09,907	0,56,138	0,50,525	0,17,352	0,12,146	0,43,992	21.64
12.	Karnataka	1,61,750	0,24,186	1,37,564	1,23,665	0,64,973	0,45,481	0,92,083	33.06
13.	Kerala	0,79,003	0,13,135	0,65,869	0,59,281	0,17,887	0,12,509	0,53,360	18.99
14.	Madhya Pradesh	3,48,186	0,52,228	2,95,958	2,66,362	1,05,494	0,73,846	2,22,112	24.95
15.	Maharashtra	3,78,677	1,23,973	2,54,704	2,29,233	1,26,243	0,88,37	1,66,334	34.70
16.	Manipur	0,31,540	0,04,730	0,26,810	0,24,129	Neg.	Neg.	0,26,810	Neg.
17.	Meghalaya	0,05,397	0,00,810	0,04,587	0,04,128	0,00,260	0,00,182	0,04,405	Neg.
18.	Mizoram	0,07,240	0,01,090	Not Assessed	0,05,535	Neg.	Neg.	0,06,150	Neg.
19.	Nagaland	2,01,287	0,30,193	0,06,150	0,55,35	0,37,196	0,26,037	1,45,057	15.22
20.	Orissa	1,81,923	0,18,192	1,71,094	1,53,984	2,30,028	1,61,020	0,02,710	98.34
21.	Punjab	1,26,021	0,19,977	1,06,044	1,47,357	1,10,350	0,77,245	0,28,799	72.84
22.	Rajasthan	Not Assessed	Not Assessed	1,06,044	0,95,440	1,10,350	0,77,245	0,28,799	72.84
23.	Sikkim	2,64,069	0,39,610	2,24,458	2,02,013	2,00,569	1,40,398	0,84,060	62.55
24.	Tamil Nadu	0,06,634	0,00,995	0,05,639	0,05,075	0,02,692	0,01,885	0,03,754	33.43
25.	Tripura	8,25,459	1,23,819	7,01,640	6,31,476	4,25,171	2,97,619	4,04,021	42.42
26.	Uttar Pradesh	0,28,411	0,04,262	0,24,149	0,21,734	0,09,776	0,06,843	0,17,306	28.34
27.	Uttaranchal	2,30,914	0,34,637	1,96,277	1,76,649	0,90,25	0,63,175	1,33,102	32.19
28.	West Bengal	43,30,663	7,09,873	36,20,191	32,58,033	19,25,207	13,47,627	22,75,564	37.23
	Total States								

1	2	3	4	5	6	7	8	9	10
UNION TERRITORIES									
1.	Andaman & Nicobar Islands			Not Assessed					
2.	Chandigarh	0.00297	0.00044	0.00252	0.00227	0.00351	0.00245	0.00007	-
3.	Dadar & Nagar Haveli	0.00422	0.00063	0.00359	0.00323	0.00065	0.00046	0.00313	12.81
4.	Daman	0.00071	0.00011	0.00060	0.00054	0.00069	0.00048	0.00012	80.00
5.	Diu	0.00037	0.00006	0.00031	0.00028	0.00042	0.00029	0.00002	94.84
6.	NCT Delhi	0.02916	0.01939	0.00977	0.00879	0.01684	0.01180	-0.00203	120.78
7.	Lakshadweep	0.03042	0.00456	0.00195	0.00176	0.00109	0.00076	0.00119	39.12
8.	Pondicherry	0.01746	0.00262	0.01484	0.01335	0.01645	0.01152	0.00332	77.63
Total UTs		0.08530	0.02782	0.03358	0.03022	0.03966	0.02777	0.00581	-
GRAND TOTAL		43.38593	7.12655	36.25938	32.63345	19.29173	13.50404	22.73145	37.24

NOTE

1. Col. 5 = Ground Water Resources — Provision of Domestic, Industrial & Other Uses (Col. 4)
2. Col. 6 = 90% of Column 5
3. Col. 7 = Gross draft is the total withdrawal from Ground Water Resources for Irrigation
4. Col. 8 = 70% of gross draft (bulk of the losses return back to the groundwater reservoir)
5. Col. 9 = Col. 5 — Col. 8 in net terms
6. Col. 10 = Level of Ground Water Development (Col. 8/Col. 5) × 100

TABLE 16.3 : MAJOR AND MEDIUM IRRIGATION PROJECTS
(EXPENDITURE INCURRED AND POTENTIAL CREATED)

Period	Outlay / expenditure (Rs crore)	Potential created (mha)	Cumulative (mha)
1	2	3	4
Pre-Plan period	Not available	9.70	9.70
First Plan (1951-56)	376	2.50	12.20
Second Plan (1956-61)	380	2.13	14.33
Third Plan (1961-66)	576	2.24	16.57
Annual Plans (1966-69)	430	1.53	18.10
Fourth Plan (1969-74)	1,242	2.60	20.70
Fifth Plan (1974-78)	2,516	4.02	24.72
Annual Plans (1978-80)	2,079	1.89	26.61
Sixth Plan (1980-85)	7,369	1.09	27.70
Seventh Plan (1985-90)	11,107	2.22	29.92
Annual Plans (1990-92)	5,459	0.82	30.74
Eighth Plan (1992-97)	21,168	2.22	32.96
Annual Plans (1997-98)	7,566	0.68	33.64
Annual Plans (1998-99)	9,322	0.88	34.52
Annual Plans (1999-2000)	12,280	0.83	35.35

ACCELERATED IRRIGATION BENEFITS PROGRAMME

A large number of irrigation projects have been launched since the beginning of the era of Planning in India. However, many projects remained incomplete

owing to financial constraints of the States. An Accelerated Irrigation Benefits Programme (AIBP) was launched during 1996-97 to give loan assistance to the States to help them complete some of the incomplete projects. Details of loan assistance released to States under AIBP from 1996-97 onwards are given below :

TABLE 16.4 : CENTRAL LOAN ASSISTANCE RELEASED UNDER ACCELERATED IRRIGATION BENEFITS PROGRAMME

Sl. No.	State	Amount released (in Rs crore)				
		1996-97	1997-98	1998-99	1999-2000	2000-01
1.	Andhra Pradesh	35.25	74.00	79.67	65.01	95.02
2.	Arunachal Pradesh	-	-	-	7.50	7.50
3.	Assam	5.23	12.40	13.95	14.54	24.08
4.	Bihar	13.50	14.04	47.82	144.04	148.44
5.	Jharkhand	-	-	-	-	9.05
6.	Goa	-	5.25	-	3.50	61.65
7.	Gujarat	74.77	196.90	423.82	272.70	421.85
8.	Haryana	32.50	12.00	-	-	-
9.	Himachal Pradesh	-	6.50	5.00	11.05	18.01
10.	Jammu & Kashmir	1.30	-	-	4.68	10.46
11.	Karnataka	61.25	90.50	94.50	157.14	171.00
12.	Kerala	3.75	15.00	-	-	22.40
13.	Madhya Pradesh	63.25	114.50	90.75	105.84	151.33
14.	Chhattisgarh	-	-	-	-	13.93
15.	Maharashtra	14.00	55.00	50.86	49.87	97.02
16.	Manipur	4.30	26.00	10.78	21.81	1.50
17.	Meghalaya	-	-	-	2.69	5.51
18.	Mizoram	-	-	-	1.43	1.43
19.	Nagaland	-	-	-	2.73	5.00
20.	Orissa	48.45	85.00	71.50	90.25	100.32
21.	Punjab	67.50	100.00	-	42.00	55.62
22.	Rajasthan	2.67	42.00	140.05	106.66	78.47
23.	Sikkim	-	-	-	1.36	-
24.	Tamil Nadu	20.00	-	-	-	-
25.	Tripura	3.77	5.10	3.975	34.65	13.88
26.	Uttar Pradesh	43.50	78.00	76.50	286.00	315.90
27.	Uttaranchal	-	-	-	-	-
28.	West Bengal	5.00	20.00	10.00	25.00	26.82
TOTAL :		500.00	952.19	1,119.18	1,450.48	1,856.20

HYDROLOGY PROJECT

The Government of India has launched a Hydrology Project with World Bank (IDA) credit assistance of 90.1 million Special Drawing Rights (US \$142 million). Besides, under the bilateral India-Dutch agreement, the government of Netherlands is providing a grant-in-aid assistance of 29.9 million Dutch guilders (US \$ 17.4 million) in the form of Technical Assistance as consultancy services and overseas training to all participating States and Central agencies. The Government of India surrendered 15 million SDRs of the credit to the Bank in August 2000. This surrender became necessary because of the depreciation of rupee vis a vis dollar. As such, the credit assistance was reduced to SDR 75.1 million (US \$ 101 million). The project is being implemented in Andhra Pradesh, Chhattisgarh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa and Tamil Nadu and five Central agencies *viz*; Central Water Commission, Central Ground Water Board, Central Water & Power Research Station, Pune, National Institute of Hydrology, Roorkee and India Meteorological Department.

The project commenced in September 1995 and the closing date of the agreement is 31 March 2002. As per revised proposal, the total cost of the project is Rs 600.08 crore with the Central and State component as Rs 186.31 crore and Rs 413.77 crore respectively.

The main objective of the project is to improve the infrastructure and staff capabilities of the Central and State agencies involved in surface and ground-water hydrology in the project area for collection and management of hydrometric and water quality data and the use of such data for water resource evaluation and management. The activities under the project include upgradation of infrastructure for collection of hydrological and hydrometeorological data; provision of equipment and materials; training and technical assistance; and institutional strengthening including new buildings and incremental operating and maintenance costs. Under the project, interactive computerized data banks within the Central Water Commission, Central Ground Water Board and State agencies, responsible for surface and ground-water data collection will be developed, so that reliable data on quantity of water resources can be made available to the planners and users.

COMMAND AREA DEVELOPMENT PROGRAMME

The Centrally-sponsored Command Area Development (CAD) Programme was launched in 1974-75, with the main objectives of improving the utilisation of created irrigation potential and optimising agriculture production and productivity from irrigated lands on a sustainable basis, by integrating all functions related with irrigated agriculture through a multi-disciplinary team under an Area Development Authority.

Beginning with 60 major and medium irrigation projects in 1974, with

a Culturable Command Area (CCA) of about 15 mha, a number of projects were included subsequently and a few were deleted. As on March 2001, 236 projects are covered under the Programme with CCA of 22.72 m.ha. spread over 28 States and two Union Territories. Since inception, an amount of Rs 2,285.67 crore has been released to the State governments as Central share of assistance for different activities of the programme. An amount of Rs 162.95 crore was spent during 2000-01.

The programme involves execution of On Farm Development (OFD) works like construction of field channels and field drains, land-levelling and shaping and conjunctive use of surface and ground water. *Warabandi* or a rotational system of distribution of irrigation water is undertaken in order to ensure equitable and timely supply of water to the farmers' fields. Adaptive trials/demonstrations and training of farmers and functionaries of implementing departments are encouraged to disseminate the technical know-how among the farmers for establishing suitable cropping patterns and improving farm practices without deteriorating soil health.

During the Ninth Plan, the Ministry had identified three items of work as thrust areas namely; (i) Participatory Irrigation Management (PIM), (ii) Reclamation of waterlogged areas in the commands of on-going CAD projects and (iii) Dissemination of technical know-how to farmers and functionaries.

The involvement of farmers in the management of irrigation is essential for better utilisation of water for irrigation. As an incentive to Farmers' Associations/Water Users' Associations, a one-time functional grant of Rs 500 per ha. (to be shared as Rs 225 per ha. by Centre, Rs 225 per ha. by State and Rs 50 per ha. by Farmers' Associations) is provided to registered and functional Farmers' Associations. Reclamation of waterlogged areas in irrigated commands is also an important component of the programme. To disseminate technical know-how among functionaries and farmers, adaptive trials/demonstrations in the farmers' fields and training of farmers and functionaries has been an important activity. Up to March 2001, 360 projects have been included for treatment to waterlogged areas in the CAD commands.

MINOR IRRIGATION

All groundwater and surface schemes having a Culturable Command Area (CCA) up to 2,000 hectares individually are classified as minor irrigation schemes. The development of groundwater is mostly done through individual and cooperative efforts of the farmers, with the help of institutional finance and through own savings. Surface minor irrigation schemes are generally funded from the public sector outlay. Irrigation potential created and utilised under minor irrigation during the various plan periods is given in table 16.5.

TABLE 16.5 : IRRIGATION POTENTIAL CREATED AND UTILIZED UNDER MINOR IRRIGATION

(In million hectares)

Period	Potential Created		Potential Utilisation	
	During	Up to	During	Up to
Up to 1951 (Pre-Plan period)	-	12.90	-	12.90
First Plan	1.16	14.06	1.16	14.06
Second Plan	0.69	14.75	0.69	14.75
Third Plan	2.25	17.00	2.25	17.00
Annual Plans (1966-69)	2.00	19.00	2.00	19.00
Fourth Plan	4.50	23.50	4.50	23.50
Fifth Plan	3.80	27.30	3.80	27.30
Annual Plans (1978-80)	2.70	30.00	2.70	30.00
Sixth Plan	7.52	37.52	5.25	35.25
Seventh Plan	9.09	46.61	7.87	43.12
Annual Plans (1990-92)	3.74	50.35	3.42	46.54
Eighth Plan	6.25	56.60	5.78	52.32
Annual Plan (1997-98)	1.02	57.62	0.73	53.05
Annual Plan (1998-99)	1.17	58.79	0.73	53.78
Annual Plan (1999-2000)	0.59	59.38	0.45	54.23

The Ministry of Water Resources has been operating the Centrally-sponsored Scheme of Rationalisation of Minor Irrigation Statistics since the Seventh Five year Plan. Central loan assistance is being given to the North-Eastern States, Jammu & Kashmir and Himachal Pradesh and also to the KBK districts of Orissa since 1999-2000 for minor irrigation works.

FLOOD MANAGEMENT

Of the country's total geographical area of 329 m.ha. (million hectares), 40 m.ha. is prone to floods, out of which 32 m.ha. can be protected. So far, an area of 14.4 m.ha. has been provided with a reasonable degree of flood protection by construction of embankments, drainage channels, town protection works and by raising villages. The cumulative expenditure on such works up to the end of the Ninth Plan is anticipated to be Rs 8,000 crore. The total area likely to benefit by the end of the Ninth Plan will be about 16 m.ha. Non-structural measures like flood plain zoning, flood-proofing and flood-forecasting are now being given priority to mitigate losses from floods.

Although Flood Management is a State subject, the Union Government provides Central assistance to the flood prone States for a few specified schemes which are technical and promotional in nature. Some such Centrally-sponsored schemes are critical anti-erosion works in Ganga Basin States, maintenance of flood-protection works of Kosi and Gandak projects, etc. The Central Government gives special assistance to the border states and North-Eastern states for taking up some special priority works.

Central Water Commission is engaged in flood-forecasting on inter-state rivers through its 21 field divisions throughout the country. About 6,500 forecasts were issued by the Central Water Commission during the flood season of 2000.

RIVER WATER DISPUTES

The major rivers of the country are mostly inter-State rivers. There has been increasing demand for water in all sectors, sometimes leading to inter-State disputes about the sharing of waters of these rivers. Efforts are made to resolve disputes through negotiations amongst the basin States with the assistance of the Central Government. Adjudication through the appointment of water disputes tribunals is also resorted to, as and when warranted.

So far the following tribunals have been appointed to resolve inter-State water disputes : (i) the Godavari Water Disputes Tribunal ; (ii) the Krishna Water Disputes Tribunal ; (iii) the Narmada Water Disputes Tribunal ; (iv) the Ravi and Beas Waters Tribunal and (v) the Cauvery Water Disputes Tribunal. The first three Tribunals have given their final reports.

GROUND-WATER DEVELOPMENT

The Central Ground Water Board is vested with the responsibility of assessing the ground-water potential of the country through hydrogeological surveys, exploration, evaluation and monitoring of ground-water regime. The total replenishable ground-water in India is estimated to be about 43.39 million hectare metre per year (about 433.86 billion cubic metre). About 7.13 m.ha m/yr is used for domestic and industrial use. It is estimated that about 36.26 m ha m/ yr is available for irrigation. According to an estimate 37.24 per cent of available groundwater resources have so far been developed.

Out of 4,272 blocks in the country (except Andhra Pradesh, Gujarat and Maharashtra where ground-water resources assessment has been carried out on the basis of *mandals*, *talukas* and *tehsils* respectively), 283 blocks have been categorized as 'Over-exploited', i.e., the stage of ground water development exceeds the annual replenishable recharge and 125 blocks are 'Dark', i.e. the stage of groundwater development is more than 85 per cent. Besides, 12 *mandals* have been categorized as 'Over-exploited' and 14 as 'Dark' in Andhra Pradesh. Similarly, in Gujarat, 13 *talukas* are 'Over-exploited' and 15 are 'Dark'. In Maharashtra, two *tehsils* are Over-exploited and six are 'Dark'.

The Central Ground Water Authority was set up on 14 January 1997 under the Environmental Protection Act, 1986 and was given the mandate of

regulation and control of the development and management of ground water resources in the country.

NATIONAL COMMISSION FOR INTEGRATED WATER RESOURCES DEVELOPMENT PLAN

The National Commission for Integrated Water Resources Development Plan submitted its report to the Union Government in 1999 for development of water resources for drinking, irrigation, industrial, flood control, transfer of surplus water to deficit areas, etc. An Implementation Cell in the Ministry of Water Resources is assisting in implementing these recommendations.

NATIONAL WATER BOARD

The National Water Board was constituted by the Government in September, 1990 to review the progress of implementation of the National Water Policy, and to report to the National Water Resources Council for initiating effective measures for systematic development of the country's water resources. A number of policy issues such as the Water Information Bill, setting up of river basin organisations, the national policy on resettlement and rehabilitation of persons affected by river valley projects, national policy guidelines on water allocation of inter-state rivers amongst states, updated national water policy, etc., have been considered by the Board.

NATIONAL WATER RESOURCES COUNCIL

The National Water Resources Council (NWRC) was set up by the Government of India in March 1983 as a national apex body, with the Prime Minister as the Chairman, Union Minister of Water Resources as Vice-Chairman and concerned Union Ministers of water related Ministries, Chief Ministers of all the States and Administrators/ Lt. Governors of all the Union Territories as members. The Secretary, Ministry of Water Resources, is the Secretary of the Council. The Council has held four meetings so far. The National Water Policy was adopted unanimously by the Council at its second meeting held on 9 September 1987. The draft updated National Water Policy was deliberated upon in its meeting held on 7 July 2000.

INTERNATIONAL COOPERATION

INDO-BANGLADESH COOPERATION

An Indo-Bangladesh Joint Rivers Commission was set up in 1972 to discuss different issues for cooperation in the field of water resources between the two countries. So far 34 meetings have been held. As a follow-up, a number of committees have been formed/old committees renewed between the two countries.

INDO-BHUTAN COOPERATION

Co-operation with the Royal Government of Bhutan continued in respect of the works for hydro-power development and establishment of hydro meteorological and flood forecasting network on rivers common to India and

Bhutan. A scheme to carry out hydro meteorological observation in Bhutan on the rivers common to India and Bhutan has been in operation since 1955. These data while being useful for assessing water resources potential are also transmitted on real time basis for formulation of flood forecasts to the stations located in India on these rivers.

A joint experts team of officials from the Governments to monitor the scheme titled "Comprehensive Scheme for establishment of hydro-meteorological and flood forecasting network on rivers common to India and Bhutan" set up in 1979 meets at regular intervals to review the progress and other requirements of the scheme. The scheme is fully funded by the Government of India.

INDO-NEPAL COOPERATION

With the signing of the Treaty on Integrated Development of Mahakali River in February 1996, various meetings of the Indo-Nepal Joint Group of experts have taken place for implementation of Pancheshwar Multipurpose Project. The Sapta Kosi High Dam Project is another important storage project having multipurpose benefits. The modalities for joint survey and investigation of this project were deliberated at a meeting of joint team of experts held in March 2001.

Under a Plan scheme, *viz.*, "Flood forecasting and warning system on rivers common to India and Nepal", 37 meteorological/hydro-meteorological stations are in operation in Nepal for collection of data to assist the flood forecasting stations in India. A Joint Committee on Flood Forecasting (CFF) has been formed in accordance with the decision taken in the first meeting of Joint Committee on Water Resources held in October 2000. The CFF held its first meeting in April 2001 in New Delhi to take a review of the scheme and prepare a comprehensive Flood Forecasting Master Plan.

INDUS WATER TREATY/PERMANENT INDUS COMMISSION

Under the Indus Waters Treaty 1960, India and Pakistan have created two permanent posts of Commissioner for Indus Waters, one each in India and Pakistan. The two Commissioners together form the Permanent Indus Commission. The Commission in its meeting held in May/June 2000 finalised the annual report for the year ending 31 March 2000. Flood-warning arrangements were made by India through priority telegrams, telephones and radio broadcasts for the benefit of Pakistan during the period from 1 July to 10 October 2000 for the Indus system of rivers.

EXTERNAL ASSISTANCE

The extension of irrigation to the various regions of the country is a national priority. The Ministry assists the State governments in tying up external assistance from the different donor agencies, to bridge the resource gap for harnessing their irrigation potential.

International support for development of the country's water resources

comes from the multilateral agencies like the World Bank and EEC and from bilateral donors such as Japan, Germany, Netherlands, France, etc. The World Bank assistance in the water resources sector is up to 75 per cent. At present there are 21 ongoing projects with external assistance from the World Bank, EEC and other bilateral agencies/countries in various States. External assistance amounting to Rs 879 crore was received during 2000-2001.

CENTRAL ORGANISATIONS

CENTRAL WATER COMMISSION

The Central Water Commission (CWC), New Delhi is responsible for initiating, coordinating and furthering in consultation with the State governments concerned, schemes for the control, conservation and utilisation of water resources for the purposes of flood management, irrigation, navigation and water power generation throughout the country. The Commission, if so required, also undertakes the construction and execution of specific projects. Over the years, the Commission has developed considerable technical know-how in plan formulation, appraisal, design of major hydraulic structures and projects for development of water resources.

CENTRAL SOIL AND MATERIALS RESEARCH STATION

The Central Soil and Materials Research Station (CSMRS), New Delhi deals with field exploration, laboratory investigations, basic and applied research in the field of geomechanics and construction materials relevant to river valley projects. The Research Station primarily functions as adviser and consultant to various departments of Government of India, State Governments and Government of India Undertakings/Enterprises. Its activities broadly cover soil mechanics, soil dynamics, rockfill technology, rock mechanics, foundation engineering, concrete technology, construction materials, geophysical investigations, field instrumentation and chemical analysis and grouting.

SUBORDINATE ORGANISATIONS

CENTRAL WATER AND POWER RESEARCH STATION

The Central Water and Power Research Station (CWPRS), Pune provides comprehensive Research and Development support to a variety of projects in the areas of water and energy resources development and water borne transport. It has taken up projects in selected disciplines such as ship hydrodynamics, photo-elasticity, hydro-machinery, coastal engineering, hydraulic instrumentation, earth sciences, hydraulic structures and information technology. The infrastructure developed with these inputs over the successive Five-Year Plans has paved the way for work in the areas of 'Mathematical Modelling of Fluvial and Ocean Hydromechanics' and 'Automated Operation of Irrigation Canal Systems'.

CENTRAL GROUND WATER BOARD

The Central Ground Water Board, Faridabad was constituted as a National

apex organisation in 1972. The main activities of the Board include macro level Hydrogeological investigations, deep exploratory drilling coupled with remote sensing studies, geophysical studies and pumping tests to study the subsurface Hydrogeological features and nation-wise monitoring of the behaviour of water table and water quality through a network of hydrograph stations. The data generated from these investigations provide a scientific base for preparation of ground water development scheme by the State Government. Besides advising the state on planning, financing and administration of groundwater development schemes, the Board undertakes research & development schemes, water balance studies, conjunctive use studies and artificial recharge studies. The Board also organises training of personnel of different disciplines of related Central Organisations and State Governments.

FARAKKA BARRAGE PROJECT

The Farakka Barrage Project, Farakka is designed to serve the need of preservation and maintenance of Kolkata Port by improving the regime and navigability of the Bhagirathi-Hooghly river system. The river Bhagirathi, the Feeder Canal and Navigation Lock at Farakka form part of the Haldia-Allahabad Inland waterway. The principal components of the project are : (a) a 2,245 metre-long barrage across the Ganga with a rail-cum-road bridge, necessary river training works, and a head regulator on the right side ; (b) a 213 metre-long barrage across the river Bhagirathi at Jangipur ; (c) feeder canal of 1,113 cubic metres per second (cumec) (40,000 cusec) carrying capacity and 38.38 km long, taking off from the head regulator on the right of the Farakka Barrage and (d) navigation works such as locks, lock channels, shelter basins, navigation lights and other infrastructures.

The Farakka Barrage Hydro Electric Project, with a capacity of 125 MW generation, estimated to cost Rs 602 crore is under consideration. The Project will be executed through the National Hydro Electric Power Corporation Limited.

SARDAR SAROVAR CONSTRUCTION ADVISORY COMMITTEE

The Sardar Sarovar Construction Advisory Committee located at Vadodara, was constituted in 1980 as per the directive of the Narmada Water Disputes Tribunal, for scrutiny of estimates, technical features, design and to monitor the progress of the construction activity of Unit-I (Dam and Appurtenant Works) and Unit-III (Hydro-Power Complex) of the Sardar Sarovar Project. The Secretary, Ministry of Water Resources, is the Chairman of the Committee. The officers of the concerned Departments of the Government of India, the States of Gujarat, Madhya Pradesh, Maharashtra, and Rajasthan and Narmada Control Authority are members of the Committee.

BANSAGAR CONTROL BOARD

The Bansagar Control Board was constituted by the erstwhile Ministry of Agriculture and Irrigation, in consultation with the Governments of Madhya

Pradesh, Bihar and Uttar Pradesh, by a resolution dated 30 January 1976 with a view to ensuring efficient, economical and early execution of the Bansagar Dam on Sone river, including all connected works in Madhya Pradesh but excluding the canal systems. The headquarters of the Board is at Rewa (Madhya Pradesh).

The estimated cost of the Dam Project is Rs 1,054.96 crore at 1998 price level. The expenditure up to November 2000 is Rs 660.874 crore. The Dam is scheduled for completion by June 2002.

GANGA FLOOD CONTROL COMMISSION

The Ganga Flood Control Commission was established in April 1972, with headquarters at Patna. It serves as the executive limb of the Ganga Flood Control Board, which is headed by the Union Minister of Water Resources and has as its members, the Chief Ministers or their representatives of the basin States and concerned Union Ministers, and acts as the Secretariat of the Board. The Commission is headed by a Chairman, who is assisted by two full-time members and other officers. The representatives of the concerned Central Ministries/Departments as well as the Chief Engineers of the basin States are either part-time members or permanent invitees to the Commission.

PUBLIC SECTOR UNDERTAKINGS

WATER AND POWER CONSULTANCY SERVICES (INDIA) LIMITED

Water and Power Consultancy Services (India) Limited (WAPCOS) provides integrated technical consultancy services in the water and power sectors in India and abroad. It was established in 1969. Besides the traditional specialisations like irrigation and drainage, flood control and reclamation, WAPCOS' specialisation covers disciplines like water supply and sanitation (rural and urban), groundwater exploration and development, hydro/thermal power generation, transmission and distribution, integrated agricultural development, ports and harbours, environmental engineering, dam safety and surveillance, etc.

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

The National Projects Construction Corporation Limited (NPCC Limited), a Government of India enterprise, was established in 1957 for developing infrastructure in the core sectors of irrigation and water resources, power and heavy industry. The Corporation has to its credit execution of more than 120 projects, i.e., irrigation/river valley projects, barrages, canals, hydro and thermal power projects, tunnels and industrial projects/steel plants, residential buildings and township projects, bridges, express highways and runways and others like water and sewerage treatment plants on turnkey basis.

OTHER ORGANISATIONS

NARMADA CONTROL AUTHORITY

In pursuance of the decision of the Narmada Water Disputes Tribunal, the

Government of India framed the Narmada Water Scheme, which, among other things, constituted Narmada Control Authority and a Review Committee in 1980 for implementation of the decisions and directions of the Tribunal. The Narmada Control Authority is headed by Secretary, Ministry of Water Resources, as the Chairman, with Secretaries of Ministry of Social Justice and Empowerment, Ministry of Tribal Affairs, Ministry of Power and Ministry of Environment & Forests, Government of India, Chief Secretaries of the four party States (Gujarat, Madhya Pradesh, Maharashtra and Rajasthan), one executive member and three full-time members appointed by the Central Government, and four part-time engineering members nominated by the party States, as members. The Review Committee is headed by the Union Minister of Water Resources with Chief Ministers of the party States as its members.

TUNGABHADRA BOARD

The Tungabhadra Board was constituted by the President of India in exercise of the power vested under Section 66(4) of the Andhra State Act, 1953, for completion of the Tungabhadra Project and for its operation and maintenance. The Board is responsible for the common portion of the Tungabhadra Project. The Krishna Water Disputes Tribunal has made specific provision in the Award for the use of Tungabhadra water by the States of Karnataka and Andhra Pradesh. The responsibility for carrying out this specific provision relating to the use of Tungabhadra waters has been entrusted to the Tungabhadra Board by the Tribunal. The Board is regulating the water for irrigation, hydro-power generation and other uses on the right bank.

At present, the Board consists of a Chairman appointed by the Government of India, a member from Government of India and two members, one each representing Andhra Pradesh and Karnataka, all working part-time in the Tungabhadra Board. An officer of Central Government appointed as the Secretary of the Board is the Chief Executive of the Board, too. The funds for the functioning of the Board are provided by the two State Governments.

BETWA RIVER BOARD

The Betwa River Board was constituted under the Betwa River Board Act, 1976 by the Ministry of Water Resources, for efficient, economical and early execution of the Rajghat Dam Project, a joint venture of Madhya Pradesh and Uttar Pradesh. The headquarters of the Board is at Jhansi (Uttar Pradesh). The Union Minister of Water Resources is the Chairman of the Board and Union Minister of State for Water Resources, Union Minister of Energy, Chief Ministers and Ministers-in-charge of Finance, Irrigation and Power of the two States are its members. The activities of the Board are managed by the Executive Committee of the Board under the Chairmanship of the Chairman, Central Water Commission. The funds for construction of the Rajghat Dam and Power House Projects and for meeting the expenses of the office of the Board are borne by the States of Madhya Pradesh and Uttar Pradesh in equal proportions.

The Rajghat Dam and Rajghat Hydro-electric Projects are inter-state

projects of Madhya Pradesh and Uttar Pradesh. Construction of the Dam and its appurtenant works and civil works of powerhouses are being executed by the Betwa River Board. The Electrical & Mechanical works of the powerhouses are being executed by the Madhya Pradesh Electricity Board under the overall supervision of the Betwa River Board. The works of canals are being executed by the two States themselves in their respective territories. The estimated cost of the Rajghat Dam is Rs 300.60 crore, and that of the power houses Rs 123.63 crore. The Rajghat Dam is almost complete. All the three units of Rajghat Hydro-electric Projects have been synchronized. During 2000, 48 million units of power was generated.

NATIONAL INSTITUTE OF HYDROLOGY

The National Institute of Hydrology (NIH), Roorkee was set up in 1979 for undertaking, promoting and coordinating systematic, scientific works in all aspects of hydrology. The Institute is an autonomous society under the Ministry of Water Resources. The Union Minister of Water Resources is the President of NIH Society.

BRAHMAPUTRA BOARD

The Brahmaputra Board, an autonomous statutory body, was set up in 1982 under the Ministry of Water Resources with its headquarters at Guwahati. The jurisdiction of the Board covers both the Brahmaputra and Barak valleys and extends over all the states of North-Eastern region.

The Board carries out survey and investigation and prepares the Master Plan for the control of floods, bank erosion, and improvement of drainage congestion and utilization of water resources of the Brahmaputra and Barak Valleys for irrigation, hydropower, navigation, etc. It also prepares project reports of the dams and other projects identified in the Master Plan and takes up construction and maintenance of the projects approved by the Central Government.

NATIONAL WATER DEVELOPMENT AGENCY

Suggestions for a National Water Grid envisaging interlinking of rivers with a view to transferring surplus water available in some regions to water deficit areas have been made from time to time. The Government of India prepared a National Perspective Plan for Water Resources Development in August 1980 envisaging interlinkages between various Peninsular rivers and Himalayan rivers for transfer of water from water-surplus basins for optimum utilisation of water resources. The Government of India established the National Water Development Agency (NWDA) in 1982 to firm up these proposals. A total of 30 water transfer links, 16 under Peninsular Component and 14 under Himalayan Component have been identified by the National Water Development Agency for preparation of feasibility reports.

Under the Peninsular Component, the Agency has already completed data collection and water balance studies of 137 basins/sub-basins and at 52 identified diversion points (including three additional studies), toposheet

studies of 58 identified storages and 18 toposheet studies of link alignments, and prepared pre-feasibility reports of 17 water transfer links.

Himalayan Rivers Development Component envisages construction of storage reservoirs on the principal tributaries of Ganga and Brahmaputra in India, Nepal and Bhutan alongwith interlinking canal systems to transfer surplus flows of the eastern tributaries of the Ganga to the west, apart from linking of the Brahmaputra and its tributaries with the Ganga and the Ganga with the Mahanadi. It will also provide necessary augmentation of flows at Farakka to flush the Kolkata Port and facilitate inland navigation facilities across the country.

Under the Himalayan Component, NWDA has already completed water balance studies at 19 diversion points, toposheet studies of 16 storage sites and 19 link alignments and prepared pre-feasibility reports of 14 proposed water transfer links.

It is programmed to complete the feasibility reports of all the water transfer link schemes under Peninsular and Himalayan Components by the year 2004 and 2008 respectively. Implementation of the interbasin water transfer link schemes can be taken up in a phased manner depending on the priorities of the Government and availability of funds. But before this, certain other steps, *viz.*, negotiations and agreements amongst the States involved in interbasin transfer, preparation of detailed project reports (DPRs), techno-economic appraisal of DPRs and investment clearance of the schemes, funding arrangements and fixing of agencies for execution, etc., would be necessary.

The implementation of the programme of interbasin water transfer is expected to provide additional irrigation benefits of 35 million hectare which will be over and above the ultimate irrigation potential of about 140 million hectare and would generate 34 million KW of power.

The Ministry has mounted its website <http://www.wrmin.nic.in> for wider dissemination of information of its activities.

17 Rural Development

RURAL India is where three-fourths of our countrymen live. The nation can, therefore, be strong and prosperous only when all villages are freed from backwardness and poverty. The Government of India is committed to the cause of bringing about rapid and sustainable development in rural areas.

The Ministry of Rural Development is engaged in implementing a number of schemes, which aim at enabling rural people to improve their living standards. Eradication of poverty and the ushering in of speedy socio-economic progress is the goal with which the development programmes are being implemented through a multipronged strategy, reaching out to the most disadvantaged sections of society. High priority is being accorded to provide clean drinking water, rural housing and road connectivity.

The social security programmes are being implemented for providing assistance to the destitute and the downtrodden. Assistance and encouragement to voluntary agencies and training of functionaries forms part of the emphasis on accelerated rural development. The Ministry is constantly endeavouring to empower the *Panchayati Raj* Institutions in terms of functions, powers and finance. In the new initiative the *Gram Sabha* has become the most significant institution. Non-Government Organisations, self-help groups and *Panchayati Raj* Institutions have been accorded adequate role to make participatory democracy meaningful and effective. Development of wastelands, desert and drought prone areas has also been undertaken along with land reforms.

By way of a holistic approach to the task of ensuring sustainable development of land, the Ministry has created two departments, viz., Department of Land Resources and Department of Drinking Water Supply in addition to the Department of Rural Development. This will facilitate coordinated policy interventions as well as quality improvement in the related development schemes.

Keeping in view the betterment of backward and most backward sections of the society in rural areas of the country, the Prime Minister in his Independence day address to the nation on 15 August 2001, announced a 10,000 crore rupee new ambitious scheme, *Sampoorna Grameen Rozgar Yojana* to provide additional and guaranteed employment in rural areas. Under the scheme, those who take employment from *panchayats* to build durable rural assets will be paid wages in cash and in foodgrains. For this, 50 lakh tonnes of foodgrains worth Rs 5,000 crore will be provided to State Governments every year. All the existing employment schemes of the Central Government will be merged into this mega-scheme. Nearly one hundred crore mandays of employment are expected to be generated through this scheme.

To ensure that maximum benefits of the programmes accrue to the people in villages, the Ministry has adopted a four-pronged strategy of creating awareness about the programmes, ensuring transparency in their

implementation at field level, encouraging people's participation in the development process, and promoting the concept of social audit for accountability.

The allocation of funds for rural development has been stepped up from Rs 30,000 crore in the Eighth Plan to Rs 42,874 crore in the Ninth Plan. The Ministry has a plan allocation of Rs 12,265 crore for the year 2001-2002. This includes Rs 9,205 crore for the schemes of the Department of Rural Development, Rs 900 crore for those of the Department of Land Resources and Rs 2,160 crore for the schemes of the Department of Drinking Water Supply.

PRADHAN MANTRI GRAM SADAK YOJANA

Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched on 25 December 2000, with the objective of providing road connectivity through good all-weather roads to all unconnected habitations having a population of more than 1,000 persons by the year 2003 and those with a population of more than 500 persons by the end of the Tenth Plan period (2007).

The Government of India had earmarked Rs 2,500 crore (being 50 per cent of the cess on high speed diesel) for the *Pradhan Mantri Gram Sadak Yojana* (PMGSY) during the year 2000-01. An amount of Rs 2,435 crore was released to the States/Union Territories for the year 2000-01. Rs 2,500 crore has been earmarked for PMGSY during 2001-02. The guidelines of the *Yojana* stipulate that district master plans would be prepared. The manual for preparing district rural roads plan has been made and circulated to the States/UTs for preparation of master plan at the block/district levels. All the States/UTs were requested to submit project proposals for the current year by July 2001.

PRADHAN MANTRI GRAMODAYA YOJANA - RURAL DRINKING WATER

The Department of Drinking Water Supply is the nodal department in the Government of India responsible for processing the release of funds under the Prime Minister's *Gramodaya Yojana* - Rural Drinking Water to the States. The programme shall be implemented in accordance with the guidelines issued in the year 1999, as amended up-to-date, for the implementation of rural water supply programme. In the States/UTs where *Panchayati Raj* Institutions (PRIs) are implementing the maintaining of rural drinking water supply schemes, the implementation of the projects under this scheme is to be entrusted to them. In other States/UTs, the agency implementing the rural water supply programme would implement these projects. Under the scheme it is envisaged to make provision of potable drinking water in rural not covered (NC) and partially covered (PC) habitations, tackle quality-related problems like fluoride, arsenic and iron contamination, brackishness and also sustainability of drinking water sources. Of the total allocation for the component 25 per cent will be utilised by respective States/UTs on projects/schemes for water conservation, rain water harvesting, ground water recharge and sustainability of the drinking water sources in respect of DDP/DPAP areas, over-exploited dark/grey blocks and other water stress/drought affected areas.

RURAL WATER SUPPLY PROGRAMME

Drinking water facilities to rural habitations are provided under State Sector programme. The Central Government endeavours to supplement the efforts of the States by providing assistance under the Centrally-sponsored Accelerated Rural Water Supply Programme. Powers have been delegated to the States to plan, sanction and implement the rural water supply schemes.

The National Agenda for Governance of the Central Government envisages provision of safe drinking water to all rural habitations in five years. The strategy to achieve the objective revolves around the following issues: accelerating the coverage of remaining "not covered and partially covered" habitations with safe drinking water systems; to tackle the problems of water quality in affected habitations and to institutionalise water quality monitoring and surveillance systems; and to promote sustainability, both of systems and sources, to ensure continued supply of safe drinking water in "covered" habitations.

An investment of about Rs 35,000 crore has been made in the water supply sector so far. Status of coverage of rural habitations as on 1 April 2001, is as follows: (i) fully covered: 12,35,759; (ii) partially covered: 1,66,832; (iii) not covered: 20,073. Ninety-nine per cent of rural habitations have access to drinking water facilities. The number of hand pumps and piped water supply schemes is about 38 lakh and 11 lakh respectively.

The Government of India has revamped the Rural Water Supply Programme which, *inter alia*, envisages institutionalisation of community based rural water supply systems by incorporating the following basic principles for ensuring peoples' participation: (i) adoption of a demand driven responsive and adaptable approach of villagers to ensure their full participation in the project in the choice of scheme design, control of finances and management arrangements; (ii) shifting the role of Government from direct service delivery to that of facilitator; and (iii) partial cost sharing either in cash or kind or both and 100 per cent responsibility of operation and maintenance by end-users. Sixty-three districts all over the country have been identified for implementing the sector reform projects on a pilot basis.

CENTRALLY-SPONSORED RURAL SANITATION PROGRAMME

Rural sanitation being a State subject, the Rural Sanitation Programme is implemented by the State Governments under State sector Minimum Needs Programme (MNP). The Central Government supplements the State's efforts by providing financial and technical assistance through the Centrally-sponsored Rural Sanitation Programme (CRSP).

The CRSP was launched in 1986 with the objective of improving the quality of life of rural people and to provide privacy and dignity to women. The concept of sanitation was expanded in 1993 to include personal hygiene, home sanitation, safe water, garbage and excreta disposal and waste water disposal. The components of the programme include construction of individual sanitary toilets for households below the poverty line (BPL), conversion of

individual sanitary toilets, construction of village sanitary complexes for women, setting up of sanitary marts, intensive campaign for awareness creation and health education, etc.

The programme has been restructured with effect from 1 April 1999. The Restructured Centrally-sponsored Rural Sanitation Programme (RCRSP) moves away from the principle of state-wise allocation of funds primarily based on poverty criteria to a "demand driven" approach in a phased manner. The restructured programme will be community-led and people-centered.

There will be a shift from high-subsidy to a low-subsidy regime. The Total Sanitation Campaign (TSC) approach emphasises on the awareness building component and meet the demand through alternate delivery mechanism. School sanitation has been introduced as a major component and as an entry point encouraging wider acceptance of sanitation among rural masses.

Under the Total Sanitation Campaign of the RCRSP, so far 96 project proposals for the identified pilot districts have been approved with the project cost of Rs 1,102 crore. The Central share is Rs 677 crore, State share is Rs 229 crore and *panchayat*/beneficiary share is Rs 196 crore. An amount of Rs 163 crore, which is 30 per cent of the Central share has been released as first instalment to the district implementing agencies. In the first phase of the implementation of TSC, the district implementing agencies are undertaking start-up activities and intensive IEC campaign in the identified pilot districts.

The components approved in the 96 pilot districts are: (a) construction of 94.3 lakh individual household latrines for BPL families; (b) construction of 10,993 sanitary complexes for women; (c) construction of one lakh toilets for primary and upper primary schools; (d) construction of 6,317 toilets for *Anganwadis/Balwadies*; and (e) setting up of 840 rural sanitary marts and production centres.

The total number of toilets constructed up to 2000-01 are 87,77,543 (provisional) with a total expenditure of Rs 1,569.7 crore.

RURAL HOUSING

INDIRA AWAAS YOJANA

With a view to meeting the housing needs of the rural poor, *Indira Awaas Yojana* (IAY) was launched in May 1985 as a sub-scheme of *Jawahar Rozgar Yojana*. It is being implemented as an independent scheme since 1 January 1996. The *Indira Awaas Yojana* aims at helping below poverty-line rural households belonging to SCs/STs, freed bonded labourers and non-SC/ST categories in construction of dwelling units and upgradation of existing unserviceable *kutch* houses by providing assistance. From 1995-96, the IAY benefits have been extended to widows or next-of-kin of defence personnel killed in action. Benefits have also been extended to ex-servicemen and retired members of the paramilitary forces as long as they fulfil the normal eligibility conditions of *Indira Awaas Yojana*. Three per cent of funds are reserved for

physically and mentally challenged rural persons from below the poverty line category.

Under the scheme, allotment of the house is done in the name of the female member of the household or in the joint names of husband and wife. A minimum of 60 per cent of funds are to be utilised for construction of houses for SC/ST people. Sanitary latrine and smokeless *chulha* are integral to an IAY house. Selection of beneficiaries under IAY is done by the *Gram Sabha*. Selection of construction technology, materials and design is left entirely to the choice of beneficiaries. Assistance for construction of new houses is provided at the rate of Rs 20,000 and Rs 22,000 per unit in the plain and hilly/difficult areas respectively. Assistance for upgradation of unserviceable *kutchha* houses at the rate of Rs 10,000 per unit has also been introduced from the year 1999-2000. Twenty per cent of IAY funds are allocated for this purpose.

Around 75 lakh houses have been constructed from 1985-86 onwards under the scheme with an expenditure of around Rs 12,500 crore. The Central allocation for rural housing during 2001-2002 is Rs 1,725 crore, out of which allocation under IAY is Rs 1,618 crore with a target of about 12.94 lakh houses. Out of this, about Rs 1,295 crore have been allocated for construction of 8.63 lakh new houses and Rs 323 crore for conversion of 4.31 lakh unserviceable *kutchha* houses into *pucca/semi-pucca* houses.

PRADHAN MANTRI GRAMODAYA YOJANA (GRAMIN AWAAS)

While the Ministry of Rural Development is already implementing schemes, including the *Indira Awaas Yojana* (IAY), in the sphere of rural housing, considering the magnitude of the task it has been felt to supplement the effort being made in this direction through the introduction of a comprehensive scheme. The scheme aims at reducing the shortage of houses for below poverty-line (BPL) families in the rural areas and also assists in the healthy development of the habitat in these areas. The *Pradhan Mantri Gramodaya Yojana* (*Gramin Awaas*) is generally based on the pattern of the *Indira Awaas Yojana* and is being implemented in the rural areas throughout the country. Under the scheme, the funds are released directly by the Ministry of Finance to State Governments. During 2000-2001, the Ministry of Finance has released an amount of Rs 286.84 crore against the additional Central assistance of Rs 375 crore to the State Governments. During 2001-2002, the additional Central assistance under the scheme is Rs 280 crore, however, no funds have been released so far.

CREDIT-CUM-SUBSIDY SCHEME FOR RURAL HOUSING

The Credit-cum-Subsidy Scheme has been conceived for rural households having annual income up to Rs 32,000. However, preference is given to below poverty-line rural households. Under the scheme, subsidy up to Rs 10,000 is given to an eligible household with loan up to Rs 40,000 per household. Sanitary latrine and smokeless *chulha* are integral part of the house. The scheme has been launched with effect from 1 April 1999. The subsidy under the scheme is shared between the Centre and State on 75:25 basis. During

1999-2000, Rs 60.69 crore were released to various States. During 2000-2001, an allocation of Rs 82 crore has been made for this scheme and an amount of Rs 26.99 crore was released. The allocation has been fixed at Rs 38 crore in 2001-2002.

SAMAGRA AWAAS YOJANA

Samagra Awaas Yojana is a comprehensive housing scheme launched with effect from 1 April 1999 with a view to ensuring integrated provision of shelter, sanitation and drinking water. The basic objective of the *Samagra Awaas Yojana* is to improve the quality of life of the people as well as overall habitat in the rural areas. The scheme specifically aims at providing convergence to various rural development activities such as construction of houses, sanitation facilities and drinking water schemes and ensure their effective implementation by suitable and sustainable induction of technology and innovative ideas. In the first phase, the scheme is to be implemented in one block each of 25 districts in 24 States and one Union Territory. Intended beneficiaries under the scheme are the rural poor, preferably those below-poverty line. During 1999-2000 and 2000-2001, Rs 2.67 crore and Rs 1.35 crore were released under the scheme respectively.

INNOVATIVE STREAM FOR RURAL HOUSING AND HABITAT DEVELOPMENT

With a view to encouraging the use of cost-effective, environment-friendly, scientifically tested and proven indigenous and modern designs, technologies and materials, a scheme called Innovative Stream for Rural Housing and Habitat Development was launched on 1 April 1999. The objective of the scheme is to promote/propagate innovative and proven housing technologies, designs and materials in the rural areas. During 1999-2000, Rs 10 crore were allocated out of which an amount of Rs 2.41 crore was released. Against the allocation of Rs 10 crore for 2000-2001, an amount of Rs. 8.73 crore was released. During 2001-2002, Rs 10 crore have been allocated out of which an amount of Rs 1.15 crore has been released so far in order to implement various projects.

RURAL BUILDING CENTRES

The Rural Building Centre (RBC) Movement popularly known as the *Nirmithi* Movement was started in 1985 in Kerala with a view to promoting technology transfer, information dissemination, skill upgradation through training and production of cost-effective and environment-friendly building components. The rural building centres are being involved in transfer of technology from lab to land. A rural building centre can be set up by the State Government, rural development agencies, credible NGOs, private entrepreneurs, professional associations, autonomous institutions and corporate bodies including public sector agencies. For setting up of a rural building centre, Rs 15 lakh are provided as one-time grant. During 2000-2001, Rs three crore was allocated out of which an amount of Rs 1.56 crore was released. During 2001-2002, Rs three crore has been allocated out of which an amount of Rs 54 lakh has

been released so far to various DRDAs/NGOs for setting up of RBCs in different States.

NATIONAL MISSION FOR RURAL HOUSING AND HABITAT

The National Mission for Rural Housing and Habitat was set up to facilitate the induction of science and technology inputs on a continuous basis in the rural housing sector. The Executive Council under the Chairmanship of Minister of Rural Development and an Empowered Committee under the Chairmanship of Secretary, Rural Development has been constituted. The third Meeting of the Working Group on the Mission was held on 26 June 2001.

PANCHAYATI RAJ

Panchayats have been the backbone of the Indian villages since the beginning of the recorded history. Gandhiji's dream of every village being a republic has been translated into reality with the introduction of three-tier *Panchayati Raj* system to enlist people's participation in rural reconstruction. 24 April 1993 is landmark day in the history of *Panchayati Raj* in India as on this day the Constitution (73rd Amendment) Act, 1992 came into force to provide constitutional status to the *Panchayati Raj* Institutions. The salient features of the Act are: (i) to provide three-tier system of *Panchayati Raj* for all States having population of over 20 lakh; (ii) to hold *Panchayat* elections regularly every five years; (iii) to provide reservation of seats for scheduled castes, scheduled tribes and women (not less than one-third of total seats); (iv) to appoint State Finance Commissions to make recommendations regarding financial powers of the *Panchayats*; and (v) to constitute District Planning Committee to prepare draft development plan for the district as a whole.

According to the Constitution, *Panchayats* shall be given powers and authority to function as institutions of self-government. The powers and responsibilities to be delegated to *Panchayats* at the appropriate level are: (a) preparation of a plan for economic development and social justice, (b) implementation of schemes for economic development and social justice in relation to 29 subjects given in the eleventh schedule of the Constitution and (c) to levy, collect and appropriate taxes, duties, tolls and fees.

The provisions of the *Panchayats (Extension to the Scheduled Areas) Act*, 1996 extends *Panchayats* to the tribal areas of Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Maharashtra, Madhya Pradesh, Orissa and Rajasthan. This has come into force on 24 December 1996. All States have passed laws to give effect to the provisions contained in the Act, 40 of 1996.

The Constitution (73rd Amendment) Act gives constitutional status to the *Gram Sabha*. As per Article 243(b) of the Constitution of India, *Gram Sabha* means a body consisting of persons registered in the electoral rolls relating to a village comprised within the area of *Gram Panchayat*. According to Article 243(a), a *Gram Sabha* may exercise such powers and perform such functions at the village level as the Legislature of a State may, by law, provide. Thus, all villagers above the age of 18 years have an inherent right to determine their own destiny. *Gram Sabha* is the forum where the marginalised poor can influence decisions affecting their lives.

The *Gram Sabha* has a key role in bringing about transparency in the functioning of the *Gram Panchayats*, in ensuring equitable distribution of benefits, in creation of community assets where these are needed and in bringing about social cohesion. It has been envisaged that *Gram Sabhas* shall plan and prioritise development works to be taken up in the village; approve annual plan for the *Gram Panchayat*; seek active participation of women, scheduled castes and scheduled tribes; ensure transparency in the working of *Gram Panchayat*; exercise the right to check the accounts of the *Gram Panchayat* select beneficiaries under various schemes of the Central Government undertaken for rural development, and move towards full control over management of natural resources.

The Ministry of Rural Development extends limited financial assistance to the States to impart training to and create awareness among the elected representatives of *Panchayats* and concerned government functionaries. The Ministry has been providing financial assistance through the Council for Advancement of People's Action and Rural Technology (CAPART) to the non-governmental organisations for conducting training and awareness generation programmes on *Panchayati Raj*. The Ministry also commissions research and evaluation studies related to *Panchayati Raj* from voluntary organisations/institutions.

A conference of Ministers of *Panchayati Raj* of the States was held on 11 July 2001 in New Delhi to discuss the reasons for poor progress in respect of devolution of powers upon *Panchayats* and to determine the measures to ensure that *Panchayats* emerge as "institutions of self-government" without further delay. The conclusions reached, by consensus, at the conference include time-bound and regular elections to *Panchayats*, completion of devolution of powers with regard to 29 subjects listed in the Eleventh Schedule, constitution of District Planning Committee by the end of December 2001 and conformity with the letter and spirit of the provisions of the *Panchayats* (Extension to the Scheduled Areas) Act, 1996, by 31 March 2002.

SWARNJAYANTI GRAM SWAROZGAR YOJANA

A new holistic self-employment programme, namely, *Swarnjayanti Gram Swarozgar Yojana* (SGSY) was launched on 1 April 1999. With this, the erstwhile programmes, viz., Integrated Rural Development Programme (IRDP), Development of Women & Children in Rural Areas (DWCR), Training of Rural Youth for Self Employment (TRYSEM), Supply of Improved Toolkits to Rural Artisans (SITRA), Ganga Kalyan Yojana (GKY) and Million Wells Scheme (MWS) ceased to be in operation. SGSY has been devised keeping in view the positive aspects as well as deficiencies of the earlier programmes.

SGSY has a definite aim of improving the family incomes of the rural poor and, at the same time, providing for a flexibility of design at the grassroots level to suit the local needs and resources. The objective of the restructuring is to make the programme more effective in providing a sustainable income generation through micro-enterprise development, both land-based and otherwise.

It aims at establishing a large number of micro-enterprises in the rural areas. The 'beneficiaries' families (known as *Swarozgaris*) may be individuals or groups (Self-Help Groups). The objective is to bring every assisted family above the poverty-line in three years subject to availability of funds. In establishing the micro-enterprises, the emphasis under SGSY is on the cluster approach. For this, 4-5 key activities are to be identified in each block based on the resources, occupational skills of the people and availability of markets. The key activities are to be selected with the approval of the *Panchayat Samitis* at the block level and the District Rural Development Agency (DRDA)/ *Zila Parishad* (ZP) at the District level. The major share of SGSY assistance is in activity clusters. SGSY adopts a project approach for each key activity. Project reports are prepared in respect of identified key activities. The existing infrastructure for the cluster of activities is reviewed and gaps identified. A fund known as 'SGSY - Infrastructure Fund' is maintained by the DRDAs and can also be utilised to generate additional funding from other sources. The effort under SGSY is to cover 30 per cent of the poor in each block in next five years. Care is taken to ensure that the maximum number of *Panchayats* are covered without jeopardizing the quality of the programme. SGSY focuses on group approach. This would involve organisation of the poor into self-help groups (SHGs) and their capacity building. Efforts are made to involve women members in each SHG. At block level, at least half of the groups are exclusively of women. Group activity is given preference and progressively, majority of the funding will be for Self-Help Groups. The *Gram Sabha* authenticates the list of families below the poverty-line identified in the BPL census.

SGSY is a credit-cum-subsidy programme. Credit is the critical component in SGSY, subsidy being only an enabling element. Accordingly, SGSY envisages a greater involvement of the banks in the planning and preparation of projects, identification of activity clusters, choice of activity of the SHGs, selection of individual *Swarozgaris*, pre-credit activities and post-credit monitoring including loan recovery. It seeks to lay emphasis on skill development through well-designed training courses. Those who have been sanctioned loans are assessed and given necessary training. SGSY ensures upgradation of the technology in the identified activity clusters. The technology intervention seeks to add value to the local resources. SGSY provides for promotion of marketing of the goods produced by the SGSY *Swarozgaris*. Subsidy under SGSY is uniform at 30 per cent of the project cost, subject to a maximum of Rs 7,500. In respect of SCs/STs, however, these are 50 per cent and Rs 10,000 respectively. For Groups of *Swarozgaris* (SHGs), the subsidy is at 50 per cent of the cost of the scheme, subject to a ceiling of Rs 1.25 lakh. There is no monetary limit on subsidy for irrigation projects. SGSY has a special focus on the vulnerable groups among the rural poor. Accordingly, the SCs/STs would account for at least 50 per cent of the *Swarozgaris*, women for 40 per cent and the disabled for three per cent. SGSY is implemented by DRDAs through *Panchayat Samitis*. The process of planning, implementation and monitoring integrates the banks and other financial institutions, the PRIs, NGOs, as well as technical institutions in the district.

Funds under the SGSY are shared by the Central and the State Governments in the ratio of 75:25. The Central allocation earmarked for the States is distributed according to the incidence of poverty in the States. However, additional parameters like absorption capacity and special requirement are also to be taken into consideration during the course of the year.

An expenditure of Rs 1,084.66 crore was incurred and a credit of Rs 1,416.4 crore mobilised during 2000-2001. A total of 4.89 lakh self-help groups were formed and 9.78 lakh *Swarozgaris* assisted. The revised budget estimates under the SGSY during 2001-2002 has been placed at Rs 700 crore.

DRDA ADMINISTRATION

A Centrally-sponsored scheme of District Rural Development Agency (DRDA) Administration was launched with effect from 1 April 1999 with the objective to strengthen the DRDAs and make them more professional in their functioning. The funding pattern of the DRDA Administration is in the ratio of 75:25 between the Centre and the States. During the current year the budget provision for DRDA Administration is Rs 220 crore.

EMPLOYMENT ASSURANCE SCHEME

Employment Assurance Scheme (EAS) was launched on 2 October 1993 for implementation in 1,778 identified backward *Panchayat Samitis* of 257 districts located in the drought prone areas, desert areas and hill areas in which the Revamped Public Distribution System (RPDS) was in operation. Later, the scheme was extended to the remaining *Panchayat Samitis* of the country in phased manner and finally universalised in 1997-98 to cover all the 5,448 rural *Panchayat Samitis*. The scheme has been restructured with effect from 1 April 1999 and as a result become an allocation-based single wage employment programme.

The primary objective of the scheme is to create additional wage employment opportunities during the period of acute shortage of wage employment through manual work for the rural poor living below poverty-line. The secondary objective is the creation of durable community, social and economic assets for sustained development.

EAS is open to all the rural poor who are in need of wage employment. However, preference is given to persons belonging to the SCs/STs as well as parents of the child labour withdrawn from the hazardous occupations. The resources under the scheme are shared between Centre and States in the ratio of 75:25 respectively.

During 1999-2000 Rs 1,736.42 crore were released by the Central Government for EAS. A total of 2,786.17 lakh mandays of employment was generated by spending Rs 2,182.60 crore. The Central allocation for 2000-2001 is Rs 1,300 crore.

JAWAHAR GRAM SAMRIDHI YOJANA

Jawahar Gram Samridhi Yojana (JGSY) is the restructured and comprehensive

version of the erstwhile *Jawahar Rozgar Yojana* (JRY). Launched on 1 April 1999, it has been designed to improve the quality of life of the rural poor. JGSY is implemented throughout the country in all the village *panchayats* except in Delhi and Chandigarh. The main objective of JGSY is to create demand-driven village infrastructure including durable assets for increasing the opportunities for sustained employment and generation of supplementary employment for the un-employed poor in rural areas. The unemployed/under-employed people living in village constitute the target group of JGSY. Special safeguards are provided under the scheme to the weaker sections of the community.

The expenditure for the scheme is shared between the Centre and the State in the ratio of 75:25. In the case of Union Territories, the entire expenditure is met by the Centre. The programme is being implemented entirely at the village *panchayat* level. The District Rural Development Agencies (DRDAs)/*Zila Parishads* (ZPs) release the funds including States matching share directly to village *panchayats*. Village *Panchayat* is the sole authority for preparation of the annual action plan and its implementation with the approval of *Gram Sabha*.

22.5 per cent of JGSY funds have been earmarked for individual beneficiary schemes for SCs/STs. Three per cent of annual allocation is utilised for creation of barrier free infrastructure for the disabled. Thirty per cent of the employment opportunities are reserved for the women. Wages under JGSY are either minimum wages notified in the Minimum Wages Act or higher wages fixed by the State Government. Village *Panchayats* have the power to execute works/schemes up to Rs 50,000 with the approval of *Gram Sabha*. However, for works/schemes costing more than Rs 50,000, after taking the approval of the *Gram Sabha*, the village *Panchayat* seeks the technical/administrative approval of appropriate authorities. Village *Panchayats* are allowed to incur expenditure up to Rs 7,500 or 7.5 per cent of funds, whichever is less, in a year on administrative expenditure/contingency and for taking technical consultancy. 15 per cent of the funds can be spent on maintenance of assets. The funds to the village *Panchayats* are allocated on the basis of population without any ceiling. DRDA/ZP/Intermediate *Panchayats* are responsible for overall guidance, coordination, supervision, monitoring and periodical reporting. The scheme had a central allocation of Rs 1,510 crore (RE) during the year 2000-2001. Of this an amount of Rs 1,384.88 crore was released to the States and UTs.

NATIONAL SOCIAL ASSISTANCE PROGRAMME

The National Social Assistance Programme (NSAP) which came into effect from 15 August 1995, is a Centrally-sponsored programme. A provision of Rs 635 crore has been made for the programme in the budget for 2001-2002. The programme had originally three components, namely National Old Age Pension Scheme (NOAPS), National Family Benefit Scheme (NFBS) and National Maternity Benefit Scheme (NMBS) to provide for social security assistance in case of old age, death of the primary breadwinner and maternity. However, the National Maternity Benefit Scheme (NMBS) has been

transferred to the Ministry of Health & Family Welfare with effect from 1 April 2001.

National Old Age Pension Scheme (NOAPS)—Central assistance is available at the rate of Rs 75 per month to persons who are aged 65 years or more and are destitutes. About 50,54,299 people were covered under the scheme in 2000-2001 (provisional). **National Family Benefit Scheme (NFBS)**—Central assistance is available as a lumpsum family benefit for households below the poverty-line on the death of the primary bread winner in the bereaved family. The amount of assistance is Rs 10,000. The age of the primary bread winner should have been more than 18 years but less than 65 years. Over 1,86,910 families were covered under the scheme during 2000-01 (provisional). **National Maternity Benefit Scheme (NMBS)**—Central assistance is available to the pregnant women belonging to households below the poverty line up to the first two live births, provided they are 19 years of age and above. A lumpsum cash assistance of Rs 500 is disbursed after the birth of the child. There were 12,92,181 women beneficiaries under the scheme during 2000-01 (provisional).

ANNAPURNA SCHEME

The *Annapurna* Scheme has been launched with effect from 1 April 2000 to provide food security to those senior citizens (65 years or above) who though eligible have remained uncovered under the National Old Age Pension Scheme. Under the scheme, each beneficiary is provided 10 kg of foodgrains per month free of cost. Rs 99.91 crore were released to 32 States/UTs under the scheme during 2000-01. A budgetary provision of Rs 100 crore has been made for the scheme during 2001-02.

TRAINING

The implementation of various rural development programmes which calls for an efficient and motivated stream of Government as well as non-government functionaries is a very challenging task. To strengthen *Panchayati Raj* Institutions, it is pertinent to empower the elected representatives at all levels with necessary knowledge and skills so that they could discharge their constitutional obligations. To fulfil the objective of training, there is the National Institute of Rural Development (NIRD) at National level, 28 State Institutes of Rural Development (SIRDs) at the State level and 88 Extension Training Centres (ETCs) at the district/sub-regional level. In addition, extensive support has been provided to a number of Training and Research Institutions dealing with issues related to rural development programmes. The Ministry provides funds for these institutes.

COUNCIL FOR ADVANCEMENT OF PEOPLE'S ACTION AND RURAL TECHNOLOGY

In order to encourage, promote and assist voluntary action in rural development with focus on injecting new technologies inputs for the enhancement of rural prosperity, the Government of India, in September 1986 set up the Council for Advancement of People's Action and Rural Technology (CAPART), by

merging two autonomous bodies, namely, People's Action for Development India (PADI) and Council for Advancement of Rural Technology (CART). CAPART is a registered body under the Ministry of Rural Development.

CAPART has nine Regional Committees/Centres at Jaipur, Lucknow, Ahmedabad, Bhubaneswar, Patna, Chandigarh, Hyderabad, Guwahati and Dharwad. The Regional Committees are empowered to sanction project proposals to voluntary agencies up to an outlay of Rs 20 lakh in their respective regions. Since its inception and up to April 2001 the CAPART has sanctioned more than 19,600 projects involving an amount of Rs 570 crore.

INTEGRATED WASTELANDS DEVELOPMENT PROGRAMME

The Integrated Wastelands Development Programme (IWDP) has been under implementation since 1989-90. From 1 April 1995, the programme is being implemented on watershed basis under the common guidelines for watershed development as 100 per cent Central Sector Scheme. The programme also helps in generation of employment in rural areas besides enhancing people's participation in the wastelands development programmes at all stages.

The basic objective of the programme is to take up integrated wastelands development based on village/micro watershed plans. The stakeholders prepare these plans after taking into consideration land capability, site conditions and local needs.

Up to March 2001, 426 IWDP projects in 28 States with a total outlay of Rs 1,49,654 crore to treat a total project area of 34.05 lakh hectares were at various stages of implementation. Out of these, the projects taken up before 1 April 1995 have more or less been completed. Projects covering 29 lakh hectares have been sanctioned under common guidelines.

INVESTMENT PROMOTIONAL SCHEME

The Investment Promotional Scheme (IPS) was launched in 1994-95 in order to stimulate involvement of corporate sector and financial institutions, etc., for the flow of funds for development of non-forest wastelands. The principle objectives of the scheme include: (i) to facilitate/ attract/channelise/mobilise resources from financial institutions, banks, corporate bodies and individuals for development of wastelands in non-forest areas belonging to the Central and State Governments, *Panchayats*, village communities and private farmers; and (ii) to facilitate production and flow of additional bio-mass including farm-forestry products used as raw material for different types of industries and horticulture/commercial plantations.

Under this scheme, Central promotional grant/subsidy to the general category (individuals/groups) is limited to Rs 25 lakh or 25 per cent of the project cost for the on-farm development activities, whichever is less subject to the condition that the promoters' contribution in the project shall not be less than 25 per cent of the project cost. The quantum of subsidy in the case of small farmers is 30 per cent and in the case of marginal farmers and SC/ST farmers, it is 50 per cent of the project cost of the on-farm development activities.

In the revised scheme of 1998, the major thrust is on the development of degraded lands belonging to the small and marginal farmers including SCs/STs. Up to 2000-2001, 26 projects have been sanctioned covering an area of 893.08 ha. of wastelands involving a subsidy of Rs 67.316 lakh.

TECHNOLOGY DEVELOPMENT, EXTENSION AND TRAINING SCHEME

A Central-sector scheme - Technology Development, Extension and Training Scheme (TDET) - was launched during 1993-94 to develop suitable technologies for the reclamation of wastelands for sustained production of food, fuel-wood, fodder, etc.

The objectives of the scheme include: (a) development of a data base for wastelands, (b) operationalisation of appropriate, cost effective and proven technologies for the development of various categories of wastelands, and (c) dissemination of research findings and appropriate technologies for promoting wastelands development.

The scheme is being implemented through Indian Council of Agricultural Research (ICAR), State Agricultural Universities, DRDAs and Government institutions having adequate institutional framework and organisational backup. Till March 2001, out of the total sanctioned 104 projects, 33 projects were completed/closed, in other words only 71 projects were in continuation as on 1 April 2001.

Under the scheme, 100 per cent Central grant is admissible to implement projects on wastelands owned by Government, Public Sector Undertakings including Universities, *Panchayats*, etc. In the case of projects on wastelands of private farmers/corporate bodies, the cost of the project requires to be shared on the basis of 60:40 between the Department of Land Resources and the beneficiaries.

DROUGHT-PRONE AREAS PROGRAMME

The Drought -Prone Areas Programme (DPAP) was started in 1973. The basic objective of the programme is to minimise the adverse effects of drought on the production of crops and livestock and productivity of land, water and human resources. The programme also aims at promoting the overall economic development and improving the socio-economic conditions of the resource-poor and disadvantaged sections inhabiting the programme areas. From 1995-1996, these objectives are being addressed through taking up development works by watershed approach for land development, water resource development and afforestation/pasture development. Presently 961 blocks of 180 districts in 16 States are covered under the programme. Since 1995-96, 11,738 watershed projects were sanctioned to the various programme states. Out of these, the entire project cost has been released for 3,126 projects. The remaining 8,612 projects are at various stages of implementation. With 11,738 projects, an area of about 58.7 lakh hectares is likely to be treated.

DESERT DEVELOPMENT PROGRAMME

The Desert Development Programme (DDP) was started in 1977-78, both in the hot desert areas of Rajasthan, Gujarat and Haryana, and the cold desert

areas of Jammu & Kashmir and Himachal Pradesh. From 1995-96, the coverage has been extended to few more districts in Andhra Pradesh and Karnataka. Presently 232 blocks of 40 districts in seven States are covered under the programme. The programme aims at mitigating the adverse effects of desertification and adverse climatic conditions on crops, human and livestock population, combat desertification and restore ecological balance of the area. Since 1995-96, 5,333 watershed projects were sanctioned to the various programme States. Out of these, the entire project cost has been released for 712 projects. The remaining 4,631 projects are at various stages of implementation. With 5,353 projects, an area of about 26.8 lakh hectares is likely to be treated.

LAND REFORMS

The Land Reforms Policy adopted since independence aims at restructuring agrarian relations to achieve an egalitarian social structure, elimination of exploitation in land relations, realising the age-old goal of "land to the actual tiller", enlarging the land base of the rural poor, increasing agricultural production and diversification of the agricultural economy, etc. The major components of the strategy of land reforms have been the abolition of *zamindari* and intermediary tenures, tenancy reforms, ceiling on ownership of agricultural holdings, consolidation of holdings, distribution of Government wastelands including *Bhoodan* land to the landless rural poor, modernisation and updating of land records system, special measures for prevention of alienation and restoration of alienated tribal lands, empowerment of women to ensure greater access to land and abolishing gender bias.

Since inception till September 2000, the total quantum of land declared surplus in the country was 73.49 lakh acres, out of which about 64.84 lakh acres have been taken possession of and 52.99 lakh acres have been distributed to 55.10 lakh beneficiaries, of whom 36 per cent belong to Scheduled Castes and 15 per cent belong to Scheduled Tribes. So far an area of 147.47 lakh acres of Government wastelands have also been distributed among the landless rural poor. Legislative provisions have been made in many States of the country for conferment of ownership rights on tenants or allowing cultivating tenants to acquire ownership rights on payment of compensation. Till date 124.22 lakh tenants have got their rights protected over an area of 156.30 lakh acres.

Reports received from various States indicate that 3.75 lakh cases of tribal land alienation have been registered so far covering 8.55 lakh acres of land, of which 1.62 lakh cases have been decided in favour of tribals covering a total area of 4.47 lakh acres.

A Centrally-sponsored scheme on Computerisation of Land Records was started in 1988-89. At present the scheme is being implemented in 544 districts in the country. In many States, the computerised copies of the Records of Rights (ROR) are being issued to the users and the public at large. Up to 7 December 2000, 1,857 *tehsils/taluks* have been covered under the scheme.

MONITORING AND EVALUATION

The Ministry lays great emphasis on monitoring and evaluation of all the rural development programmes, in general, and poverty alleviation and employment generation schemes, in particular, being implemented in various States/UTs. The comprehensive system of monitoring and evaluation includes various mechanisms such as progress reports, financial returns, audit reports, intensive inspections by officers of both Central and State Governments, etc. The Ministry also conducts quick evaluation/concurrent evaluation of selected programmes. Impact assessment studies to assess the overall impact of the Ministry's programmes at village level are also conducted in selected districts. The Ministry of Rural Development maintains a web-site www.rural.nic.in giving the details of its programmes.

Vigilance and Monitoring Committees have been set up at State/District/Block levels in all the States/UTs except in the States of Jammu & Kashmir and Karnataka to monitor the implementation of the programmes. State's own committees with similar functions have been formed in these two states.

18 Food and Civil Supplies

THE Department of Food & Public Distribution is responsible for the management of the food economy of the country. It undertakes various activities, such as, procurement of foodgrains, building up and maintenance of food stocks, their storage, movement and delivery to the distributing agencies. A close watch is kept on production, stock and price level of foodgrains, and efforts are made to ensure their adequate availability at reasonable prices in different parts of the country.

FOOD PRODUCTION

The production of foodgrains from 1991-92 to 2000-2001 (up to 12 April 2001) is given in table 18.1.

TABLE 18.1 : PRODUCTION OF FOODGRAINS

(lakh tonnes)

Crop	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01
Rice	746.8	728.6	803.0	818.1	769.8	817.3	825.4	860.8	894.8	855.0
Wheat	556.9	572.1	598.4	657.7	621.0	693.5	663.5	712.9	755.7	685.5
Coarse Cereals	259.9	365.9	308.2	298.8	290.3	341.1	304.0	313.3	304.7	303.6
Pulses	120.2	128.2	133.0	140.4	123.1	142.5	129.7	149.1	133.5	117.2
Total	1,683.8	1,794.8	1,842.6	1,915.0	1,804.2	1,994.4	1,922.6	2,036.1	2,088.7	1,961.3

PROCUREMENT OF FOODGRAINS

Procurement of foodgrains at support prices ensures stability in farm prices. It serves the twin purpose of ensuring remunerative price to the farmers and of building public stocks of foodgrains. Table 18.2 gives an idea of the quantum of procurement of main food crops, viz., rice and wheat since 1991-92 marketing season.

TABLE 18.2: PROCUREMENT OF FOODGRAINS

(lakh tonnes)

Crop	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
Rice ¹	102.55	130.53	142.61	137.05	100.45	129.60	155.86	125.90	182.06	191.03	63.89 ³
Wheat ²	77.53	63.80	128.35	118.69	123.27	81.57	92.98	126.52	141.44	163.56	206.14

¹ Marketing Season : October-September² Marketing Season : April-March³ Up to 20 September 2001 (Central Pool only)

BUFFER STOCKS

According to the Buffer Stocking Policy of foodgrains, the total minimum stocks in the Central Pool held by public agencies as on different dates in a year should be as under:

(lakh tonnes)

Date	Wheat	Rice	Total
1 April	40	118	158
1 July	143	100	243
1 October	116	65	181
1 January	84	84	168

STOCK POSITION

As on 31 March 2001, closing stock of foodgrains (wheat and rice) in the Central Pool with FCI and State agencies stood at 446.95 lakh tonnes (provisional) as against 289.06 lakh tonnes (provisional) on the same date last year.

DISTRIBUTION

The off-take of food grains (rice and wheat) from the Central Pool by various States/UTs and others for distribution through fair price shops and for welfare/employment programmes in 2000-2001 was 179.467 lakh tonnes as against 230.531 lakh tonnes during 1999-2000. The total off-take of foodgrains (wheat and rice) under Targeted Public Distribution System (TPDS) during April 2000-March 2001 was about 114.78 lakh tonnes comprising 76.34 lakh tonnes of rice and 38.44 lakh tonnes of wheat.

IMPORT AND EXPORT

No import of foodgrains took place during 2000-2001. A total of 22.98 lakh MTs of wheat was exported through STC, MMTC, PEC, etc., during 2000-

2001. A quantity of 59,066 MTs of rice was lifted by parties for export.

ANTYODAYA ANNA YOJANA

The Government has launched the *Antyodaya Anna Yojana* (AAY) for the poorest of the poor. This scheme was announced by the Prime Minister on 25 December 2000. Under this scheme 25 kg of foodgrains are made available to each eligible family at highly subsidised rates— Rs two a kg for wheat and Rs three a kg for rice. There are about one crore *Antyodaya* families in the country. The identification of these families is carried out by the State/UT Administration from among the BPL families.

As against the allocation of 6.52 lakh tonnes of foodgrains made from April to September 2001, a quantity of 4.96 lakh tonnes has been lifted by the States/UTs. The offtake is thus 75.18 per cent.

FOOD FOR WORK PROGRAMME

The Ministry of Rural Development launched the Food for Work Programme in the rural areas of drought affected States in January 2001 as part of the Employment Assurance Scheme (EAS). The scheme has been extended to flood/heavy rain affected areas of Bihar and Kerala. The scheme provides for allocation of foodgrains (rice and wheat) free of cost as an additional resource. So far 27.42 lakh tonnes of foodgrains (16.28 lakh tonnes of rice and 11.14 lakh tonnes of wheat) have been allotted to 10 States under the programme. The offtake of foodgrains is 17.01 lakh tonnes (provisional).

SAMPOORNA GRAMIN ROZGAR YOJANA

A Centrally-sponsored scheme, namely, *Sampoorna Gramin Rozgar Yojana* (SGRY) has been launched on 25 September 2001. Under SGRY, all the wage employment schemes will be merged. Under the SGRY, 50 lakh tonnes of foodgrains amounting to Rs 5,000 crore (at economic cost) will be provided every year, free of cost, to the States/UTs. An additional Rs 5,000 crore will be utilised to meet the cash component of wages and material cost. About 100 crore mandays of employment are envisaged to be generated every year through the SGRY. Under the scheme, five kg of foodgrains will be ensured per manday to all unemployed rural workers. The remaining part of the wages will be paid in cash.

MID-DAY MEALS SCHEME

The Mid-Day Meals Scheme was launched by the Ministry of Human Resource Development (Department of Education) on 15 August 1995 for the benefit of students in primary schools in 2,368 blocks. The scheme covers students enrolled in classes I-V in primary schools run/aided by the Government as well as schools run by local bodies. The scheme was extended to cover all low female literacy blocks (2,005) during 1996-97 and to all primary schools and 3,000 *Nagar Palikas* during 1997-98.

During 2000-2001, 8.23 lakh MTs of wheat and 16.57 lakh MTs of rice were allotted to the States/UTs out of which 4.014 lakh MTs of wheat and

11.179 lakh MTs of rice were lifted. The offtake during 2001-2002 is seven lakh tonnes of foodgrains (5.068 lakh tonnes rice and 1.937 lakh tonnes wheat) up to 30 September 2001, against the annual allocation of 28.83 lakh tonnes of foodgrains.

INTEGRATED CHILD DEVELOPMENT SCHEME WHEAT BASED NUTRITION PROGRAMME

The foodgrains allotted under this scheme are utilised by the States/UTs under the Integrated Child Development Scheme (ICDS) for providing nutritious energy foods to children below six years of age and expectant/lactating women. The Department of Food & Public Distribution makes allocation of foodgrains requested for by the nodal Department of Women & Child Development. The foodgrains are supplied to the States/UTs under the scheme at BPL rates from 1 November 2000. During 2001-2002 3.5 lakh tonnes of foodgrains (2.5 lakh tonnes wheat and one lakh tonnes rice) have been allocated to the States/UTs.

SUPPLY OF FOODGRAINS TO SC/ST/OBC HOSTELS

The Ministry of Social Justice & Empowerment is the nodal Central Ministry for implementation/monitoring of the scheme introduced in October 1994. The residents of the hostels having 2/3rd students belonging to these categories are eligible to get 15 kg foodgrains per resident per month. The annual requirement of foodgrains under the scheme is estimated at 2.45 lakh tonnes. About 1.75 lakh MT of foodgrains have so far been allocated during the current year.

ANNA PURNA SCHEME

The Department of Rural Development is the nodal Department for this scheme. The scheme commenced from 2000-2001. Indigent senior citizens above 65 years of age, who though eligible for old age pension under the National Old Age Pension Scheme but not getting the pension are covered under the scheme. Ten kg of foodgrains per person per month is supplied free of cost under the scheme.

A quantity of 1.65 lakh tonnes of the foodgrains (wheat and rice) at economic cost was allotted to the Ministry of Rural Development during 2000-2001. The offtake was 9,000 MTs of wheat and 10,000 MTs of rice. For 2001-2002, 1.62 lakh tonnes of foodgrains have been allocated.

TARGETED PUBLIC DISTRIBUTION SYSTEM

In order to ensure availability of minimum quantities of foodgrains to the families living below-poverty line, the Government of India launched the TPDS in June 1997. It was intended to benefit about six crore poor families in the country for whom a quantum of 72 lakh tonnes of foodgrains was earmarked annually at the rate of 10 kg per family per month.

The States/UTs have been requested for implementation of TPDS that the thrust should be to include only the really poor and vulnerable sections

of the society in the rural and urban areas. The allocation of foodgrains to the States/UTs was made on the basis of average annual offtake of foodgrains under PDS during the past ten years. The Government of India increased the allocation for BPL families from 10 kg to 20 kg of foodgrains per family per month at 50 per cent of economic cost from 1 April 2000. The allocation of foodgrains for BPL families has been further increased from 20 kg to 25 kg per family per month from July 2001. The increased level of allocation of foodgrains for 6.52 crore BPL families is 195.6 lakh tonnes per annum. During 2001-2002, 81.12 lakh tonnes of rice and 69.48 lakh tonnes of wheat has been allotted under TPDS (*Antyodaya*, BPL, APL & additional) till September 2001. A quantity of 37.15 lakh tonnes of rice and 19.34 lakh tonnes of wheat has been lifted against this allocation. In order to make the PDS more effective, the Public Distribution System (Control) Order, 2001 has been issued on 31 August 2001.

OPEN SALE OF WHEAT AND RICE

The Government of India undertakes open sale of wheat and rice through the Food Corporation of India as and when necessary. The present open sale of wheat scheme is in operation since 18 November 1998. In order to liquidate the excess stocks of wheat, Open Market Sale Scheme (Domestic) (OMSS(D)) of Wheat was resumed in Punjab from 11 July 2000 at the predetermined prices of Rs 700, Rs 750 and Rs 800 per quintal for the months of July, August and September 2000 respectively. As there was no open sale of wheat at Rs 700 per quintal during July 2000, the scheme was extended to all other zones of the country from 9 August 2000, and the open sale rates of wheat were fixed for August and September 2000. The High-Level Committee (HLC) of FCI was authorised to fix open sale rates of wheat from October 2000 onwards. The rates are now being fixed on monthly basis.

The Open Sale Scheme of Wheat can be availed of by any consumer, trader, State Government, Union Territory, Roller Flour Mill, *Chakki*, Co-operative, Super Bazar and Civil Supply Corporation, subject to purchase of minimum quantity of 10 MTs.

Open sale of rice was started from 4 September 2000. FCI was authorised to undertake open sale of rice to the extent of 30 lakh tonnes only in the consuming States where there is no-negligible-procurement of rice. Subsequently, the sale had been extended in those States also where rice was being procured for the Central Pool. In such States, however, the open sale price of rice was not to be fixed less than the levy price of the rice. The scheme of Open Sale of Rice has been discontinued.

INTERNATIONAL COOPERATION

India is a member of the following international organisations : (i) International Grains Council (formerly International Wheat Council); (ii) Food and Agriculture Organisation of the United Nations including its Committee on World Food Security; and (iii) International Sugar Organisation/International Sugar Council. India was appointed as Chairman of the International Grain Council and its

Executive Committee for 2000-2001 held at Regina, Canada. India is also a member of the SAARC Food Security Reserve Board.

STORAGE

The storage capacity of three public sector agencies, *viz.*, Food Corporation of India (FCI), Central Warehousing Corporation (CWC) and 16 State Warehousing Corporations (SWCs) engaged in building large-scale storage/warehouses as on 1 March 2001 is as under :

STORAGE CAPACITY

(in lakh tonnes)

AGENCY	COVERED		CAPACITY		TOTAL
	OWNED	HIRED	OWNED	HIRED	
FCI ¹	125.97	115.70 ¹	23.51	45.67	310.85
CWC	55.97	14.34	10.83	2.53	83.67
SWCs	85.16	40.10	20.19	-	145.45

¹ The capacity includes 69.13 lakh MT capacity hired from the CWC and SWCs.

The CWC started its operations in 1957 with a capacity of 7,000 tonnes in hired godowns. It has steadily increased its warehousing capacity and is operating 467 centres with a total capacity of 83.67 lakh MT as on 1 March 2001. The CWC is also operating 109 custom-bonded warehouses with a total capacity of 7.49 lakh tonnes as on 1 March 2001. The Corporation has been making profits and paying dividends consistently.

The CWC has associates in State Warehousing Corporation in 16 States. The total investment of the CWC which is a 50 per cent shareholder in the equity capital of State Warehousing Corporation was Rs 53.83 crore as on 31 March 2001.

POST HARVEST MANAGEMENT OF FOODGRAINS

SAVE GRAIN CAMPAIGN

The scheme is implemented through a network of 17 Save Grain Campaign (SGC) offices in collaboration with the State governments, NGOs, corporate houses, etc. The main objective of the scheme is to transfer the technical know-how developed by IGSMRI to the farmers for minimising the post harvest losses in foodgrains. The main functions of SGC are: (i) To educate, motivate and persuade the farmers through training demonstration, publicity, etc., to adopt recommended measures at farm-level to minimise the foodgrains losses; (ii) To organise stipendiary/non-stipendiary training courses for farmers on scientific methods of preservation of foodgrains; (iii) To popularise improved storage structures like metal bins, *pucca kothis*, RCC ring bins, etc., and (iv) To develop the nucleus villages wherein at least 30 per cent existing storage structures are improved upon and about 10 per cent storage structures

are scientific ones like metal bin, Pusa bin, *pucca kothi* and RCC ring bin. Under the scheme an assistance for purchasing the metal bins and other inputs at the rate of Rs 10,000 per village is provided to the farmers.

During 2000-01, 40,717 farmers were trained in 1,635 stipendiary/non-stipendiary training programmes, 21,399 metal bins distributed, 21,996 non-metallic storage structures improved/constructed and 435 nucleus villages developed out of 1,150 villages covered.

QUALITY STANDARDS FOR FOODGRAINS

The Government exercises due control over the quality of foodgrains procured for the Central Pool. The Quality Control Cell of the Ministry at New Delhi, Kolkata and Hyderabad monitor the quality of foodgrains being procured by FCI and State agencies for Central Pool as well as at the time of storage and distribution.

INDIAN GRAIN STORAGE MANAGEMENT AND RESEARCH INSTITUTE

The Indian Grain Storage Management and Research Institute (IGSMRI), Hapur, is engaged in the training and R&D work relating to grain storage management. The Institute has five field stations at Hyderabad, Jorhat, Ludhiana, Jabalpur and Udaipur. The IGSMRI also conducts various training courses on storage, inspection of foodgrains, pest control, etc., for the officers of storage agencies, pest control operators, etc.

SUGAR INDUSTRY

Sugar industry is the second largest agro-based industry in the country. As on 30 June 2001, there were 506 installed sugar factories in the country as against 138 during 1950-51. The production, consumption and export of sugar from 1995-96 to 2000-2001 is as under :

(lakh tonnes)

Sugar Season (October-September)	Production	Internal Consumption	Export	Import
1995-96	164.29	131.72 ¹	8.87	0.42
1996-97	129.05	136.75	5.36	0.26
1997-98	128.44	139.95	0.97	6.29
1998-99	154.52	140.82	0.09	8.32
1999-2000 ²	181.93	155.08	0.23	4.69
2000-2001 ²	176.99	158.11	4.08 ²	0.08
	(as on 31.07.2001)		(as on 31.05.2001).	

¹ Includes 1.99 lakh tonnes of imported sugar

² Provisional

Although sugar continues to be under partial control policy, the Government has taken certain measures to deregulate the sugar industry in a phased manner. The Public Distribution System (PDS) for sugar has been restructured and targeted. With effect from 1 February 2001, sugar in the PDS is supplied to the below-poverty line (BPL) families in all States/UTs, except the north-eastern States, hill States and the island territories, where it is supplied to all the ration card holders.

EDIBLE OILS

It has been the policy of the Government to have an efficient management of edible oils so as to ensure its easy availability to consumers at reasonable prices, throughout the country. Production of oilseeds has increased from 186 lakh tonnes in 1990-91 to 215.40 lakh tonnes in 1998-99. Potential of the secondary sources of edible oils like cotton seed, copra, rice bran and oil bearing materials from tree and forest origin has also been exploited moderately and these sources are now contributing to the level of 25 per cent of the domestic vegetable oils production. There has been a continuous gap between the demand and supply for a number of years and the country has been resorting to import of edible oils to bridge the gap. The import policy on edible oils has further been liberalized with effect from 1 April 1999 allowing import of all edible oils except coconut oil. During 1999-2000, 34.55 lakh tonnes of edible oil was imported.

According to current policy, the customs duty on crude oils including Crude Palm Oil is now fixed at 65 per cent with the exception of soyabean oil where the duty has been kept at 45 per cent due to WTO binding. The customs duty on all refined oils has been fixed at 85 per cent (basic). Special Additional Duty (SAD) is levied on refined oils at the rate of 4 per cent.

STATUS OF VEGETABLE OIL INDUSTRY

The vegetable oil industry is administered through the following control/regulation orders: (i) Vegetable Oil Products (Regulation) Order, 1998; (ii) Edible Oils Packaging (Regulation) Order, 1998; (iii) Solvent Extracted Oils, De-Oiled Meals and Edible Flour Control Order, 1967; and (iv) Pulses, Edible Oilseeds and Edible Oils (Storage Control) Order, 1967. These orders are statutory in nature and derive their powers from the Essential Commodities Act. The market liberalisation and delicensing of the industry in 1990-91 has resulted in both increased capacity and intense competition at low margin. The following table indicates the position of different sectors of the edible oil industry.

Type of Vegetable Oil Industry	No. of Units	Annual Capacity (lakh MT)	Capacity Utilisation (in %)
Oilseed Crushing Units ¹	1,50,000 (Approx.)	425 (in terms of seeds)	10-30
Solvent Extraction Units	783	338 (in terms of oil- bearing materials)	34
Refineries	300 (Approx.)	50 (in terms of oil)	32
Vanaspati Units	219	48.06 (in terms of vegetable oil products)	41

¹ Include units in the small scale/organised sector

In terms of the liberalised industrial policy of the Government, no licence is required for activity relating to processing of vegetable oils, provided the proposed unit does not come under the locational policy angle and also provided the manufacturing activity does not involve items of manufacture reserved for small scale industry.

HINDUSTAN VEGETABLE OILS CORPORATION LIMITED

The Hindustan Vegetable Oils Corporation Limited (HVOC), a public sector undertaking, was incorporated in March 1984 with the merger of two nationalised companies, M/s Ganesh Flour Mills and Amritsar Oil Works. The Corporation is engaged in the manufacture and supply of *vanaspati*, refining/packing of imported edible oils for supply under the PDS, besides manufacture of various types of nutritious breakfast food, ready-to-eat snacks and protein-rich soya products. It has eight manufacturing and packing units in the country. Its authorised capital is Rs 10 crore while the paid-up capital stands at Rs 7.71 crore.

The Delhi Vanaspati Unit was closed down in 1996. The Kolkata Unit also remained closed. The BIFR declared the HVOC a sick industrial company in December 1999. On the recommendation of the Disinvestment Commission, the Government decided to close down all the Units of HVOC. As a result, 1,148 out of 1,276 employees exercised their option for voluntary separation scheme.

FOOD PROCESSING

The Ministry of Food Processing Industries was set up in July 1988 to give an impetus to the development of food-processing industries in the country. Subsequently this Ministry was made a Department and brought under the Ministry of Agriculture. In the era of economic liberalisation, the Department

acts as a catalyst for bringing in greater investment in this sector, encouraging exports and creating a conducive environment for healthy growth of the food processing industry.

FOODGRAIN MILLING INDUSTRY

The number of modern/modernised rice mills has gone up from practically nil in 1970 to 35,088 as on 1 January 2001. As a result of improved availability of bran from these modern and modernised mills, the processing of bran is estimated to be around 34 lakh tonnes in 1999-2000.

Thirteen regional extension service centres have been set up in various States with agricultural universities/research institutions for propagating the benefits of modernization of rice milling industry and by-product utilization. The Paddy Processing Research Centre, Thanjavur, an autonomous body, carries the basic research work on different aspects of rice processing and by-product utilisation. Post-harvest Technology Centre at Indian Institute of Technology (IIT), Kharagpur, offers training for long term and short term courses.

There being no control on price and distribution of wheat products, no licence is required for manufacture of wheat products. As such mills have been given a freehand to obtain their requirements of wheat from any source, thereby avoiding their dependence on Government. Nearly 10.5 million tonnes of wheat is converted into various wheat products by about 820 roller flour mills in the country every year against installed capacity of 19.5 million tonnes.

CONSUMER FOOD INDUSTRIES

The consumer food industry mainly consists of ready-to-eat products or ready-to-cook products such as pasta products, cocoa-based products, bakery products, biscuits, soft drinks, etc. Bakery industry in India is probably the largest of the processed food industries. The two major bakery industries, viz., bread and biscuits, account for about 82 per cent of the total bakery products. The annual production of bakery products which includes bread, biscuits, pastries, cakes, buns, rusk, etc., is estimated to be in excess of 30 lakh tonnes. The production of bread and biscuits in the country both in the organized and unorganized sectors is estimated to be around 15 lakh tonnes and 11 lakh tonnes respectively. Of the total production of bread and biscuits, about 35 per cent is produced in the organized sector. Another wheat-based product known by its generic name, i.e., pasta, products comprising of noodles, vermicelli, macaroni and spaghetti is gaining popularity.

There are 20 units engaged in the manufacture of cocoa products like chocolates, drinking chocolates, cocoa butter, cocoa butter substitutes, cocoa-based malted milk foods with a production of approximately 34,000 tonnes.

The estimated production of soft drinks has increased from 6,230 million bottles in 1999-2000 to 6,540 million bottles during 2000-2001. At present, there are 36 units manufacturing beer under licence from Government of India having an estimated output of four lakh kl per annum.

FRUIT AND VEGETABLE PROCESSING INDUSTRIES

The estimated installed capacity of fruits and vegetables processing industries has increased from 21 lakh tonnes in 1999 to 21.10 lakh tonnes in 2000. However, the production of processed fruits and vegetables in the country has increased from 9.8 lakh tonnes in 1999 to 9.9 lakh tonnes in 2000.

The Department of Food Processing Industries administers the Fruit Products Order (FPO), 1955. The order aims at regulating sanitary and hygienic conditions in the manufacture of fruit and vegetable products. To ensure good quality products manufactured under hygienic conditions, FPO order lays down the minimum requirements for (i) sanitary and hygienic conditions of premises, surroundings and personnel; (ii) water to be used for processing; (iii) machinery and equipment; and (iv) product standards.

The total number of licensed units under FPO has increased to 5,293 from 5,198.

DAIRY PRODUCTS

Milk production in 2000-2001 is anticipated to be 81 million tonnes as against 78 million tonnes during 1999-2000. There has been an increase in the estimated production of milk powder including infant milk food from 2.25 lakh tonnes in 1999 to 2.30 lakh tonnes in the year 2,000 and the estimated production of malted food products has increased from 66,000 tonnes in 1999 to 67,000 tonnes in the year 2,000. The production of cheese in the organized sector in the year 2000 has been estimated as 7,500 tonnes. The estimated production of condensed milk has increased from 11,000 tonnes in the year 1999 to 11,500 tonnes in 2000.

MEAT AND POULTRY PROCESSING

The details of production of meat and meat products from 1994 to 1998 is as under:

	(thousand tonnes)				
	1994	1995	1996	1997	1998
Mutton & goat meat	637	647	669	670	675
Pork	365	420	420	420	420
Chicken (Poultry Meat)	442	578	480	580	600
Cattle (Beef)	1,290	1,292	1,292	1,292	1,295
Buffalo (Meat)	1,200	1,204	1,204	1,205	1,210

The total meat production in the country is to the tune of 4.5 million tonnes per annum. The slaughter rate in relation to the population of animals is about six per cent in the case of cattle, 10 per cent in the case of buffaloes, 99 per cent in the case of pigs, 31 per cent in the case of sheep and 39 per cent in the case of goats.

FISH PROCESSING

More than 50 per cent of the production of fish in India is from marine sources. Production of fish from both marine and inland sources has decreased from 5.39 million tonnes in 1997-98 to 5.26 million tonnes in 1998-99.

Processing of marine products into canned and frozen forms is carried out almost entirely for the export market. In all, there are 386 freezing units, 13 canning units, 12 fish meal plants, 486 frozen storage units, 611 peeling sheds/pre-processing plants and 216 other fish storage (mainly dried fish storage) as on 31 May 2001.

EXPORTS

Export of processed fruits and vegetables in 2000-2001 is estimated to be around Rs 525 crore as against Rs 656 crore in 1999-2000. Export of animal products is estimated to be around Rs 950 crore in 2000-2001 as against Rs 879 crore in the last year. Export of processed foods (including cereal based products) is estimated to be around Rs 4,895 crore in 2000-2001 as against Rs 6,335 crore in 1999-2000 and export of marine products is Rs 6,444 crore during 2000-2001 against Rs 5,117 crore during 1999-2000.

CONSUMER AFFAIRS

PRICE MANAGEMENT

During the year 2000-2001, the overall availability and prices of essential commodities remained at reasonable levels, except marginal increases in the case of items like gram, *urad*, potatoes, onion, tea, coke and kerosene. The annual rate of inflation in terms of Wholesale Price Index (WPI) numbers recorded a modest rate of 6.3 per cent during March end 2001 as compared to 5.5 per cent in the corresponding period in 2000.

The Government had taken several steps to keep the prices of essential commodities within reasonable levels and also to facilitate their easy availability in the open market. The Cabinet Committee on Prices (CCP) under the Chairmanship of the Prime Minister and the High Powered Price Monitoring Board (HPPMB) under the Chairmanship of Cabinet Secretary monitored the prices and availability of essential commodities. The Department of Consumer Affairs monitored the prices of 12 essential commodities, namely, rice, wheat, gram, *arhar*, sugar, groundnut oil, mustard oil, vanaspati, salt, tea, potato and onion on a daily and weekly basis from selected centres all over the country. In order to augment the availability of essential commodities, imports of commodities which were in short supply such as edible oils, pulses, etc., were allowed under OGL at zero or reduced import duties. Further, State/UT governments were also asked to take strict action against hoarders, black marketeers and others indulging in unfair trade practices under the Essential Commodities Act and other similar legislative measures.

COMMODITYWISE PRICE TRENDS

CEREALS

An important feature of the trend in the WPI during 2000-2001 had been the lower increase in the prices of subgroups, namely, primary articles (1.2 per cent) and manufactured products (3.8 per cent) as against a higher increase in the case of fuel, power, light and lubricants (21.9 per cent) which have administered prices. Among sub-groups, a decline was noted in the WPI of cereals by 4.5 per cent. All the individual items in this sub-group have contributed to this decline in the range of 1 per cent (rice) to 24.3 per cent (*bajra*). This was partially due to increase in the production of cereals during the year 1999-2000 by a record level of 195.52 million tonnes. The production of cereals for 2000-01 is estimated to be around 184.41 million tonnes showing a decline of 11.11 million tonnes, *i.e.*, 5.7 per cent. However, substantial buffer stock may not allow any increase in prices of rice and wheat.

PULSES

The WPI of sub-group of pulses recorded an increase of 8.8 per cent during the year 2000-01 as compared to a similar rise of 8.9 per cent in the corresponding period a year ago. This increase was mainly attributed to a sharp rise in the WPI of gram and *urad* by 23.6 per cent and 20 per cent respectively. However, the WPI of *arhar* and *masur* declined by 14 per cent and 6.6 per cent respectively during this period. The production for 1999-2000 has been estimated to be around 13.35 million tonnes. The advance estimates of pulses production for 2000-2001 is placed at 11.72 million tonnes as against a target of 15 million tonnes. This decline in production may result in increase in the prices of different varieties of pulses during the current year. Imports of pulses for the period of April-December 2000 were 2.06 lakh tonnes as compared to 1.96 lakh tonnes during April-December 1999.

EDIBLE OILS

There had been a decline in the prices of edible oils during 2000-01 also. During this period, the WPI of edible oils, as a sub-group, exhibited a decline of 7.5 per cent over and above the decrease of 17.7 per cent in the previous year. The price indices of major edible oils which contributed to this decline included *vanaspathi* (-12.3 per cent), mustard oil (-4.1 per cent), groundnut oil (-13.7 per cent) and coconut oil (-20.5 per cent). Fall in the prices of major edible oils was mainly due to decline in their prices in international markets resulting in higher import of edible oils. In order to provide remunerative prices to edible oilseeds farmers, the Government have increased the customs duty on import of edible oils up to 85 per cent.

SUGAR

The price of sugar remained at reasonable levels in 2000-01. The WPI of sugar during this period had recorded a decline of 0.7 per cent as against the

increase of 3.4 per cent in the previous year. The overall level of price and availability position of sugar in the country is comfortable.

VEGETABLES

Unlike the last two years, the overall availability and prices of vegetables including potato and onion in the country was satisfactory during 2000-01. No perceptible increase was noticed in the prices of any vegetables during this period. Though the price indices of major vegetables like potato and onion increased by 32.5 per cent and 40.7 per cent respectively, the WPI of sub-group of vegetables has declined by 15.3 per cent due to decline in the prices of other vegetable items. The production of onion for 2000-01 is anticipated to be around 46 lakh tonnes as compared to 49 lakh tonnes in 1999-2000. In order to prevent any shortages or higher prices, the Government had imposed quantitative restrictions on the exports of onion and permitted its exports in a phased manner through various designated agencies.

TEA

During the year 2000-01, the prices and availability of tea in the country remained satisfactory. Though the WPI of tea during this period exhibited a rise of 21.8 per cent as against the decline of 12.5 per cent in 1999-2000, its production was comparatively higher at 788.71 million kg during April-February 2001 as against 782.02 million kg for the same period a year ago. Export of tea was 144.20 million kg for April-December 2000 as compared to 144.28 million kg for April-December 1999. Import of tea was 3.87 million kg during April-December 2000 as compared to 4.58 million kg for the same period of 1999.

The prices and availability of most of the essential commodities during the year 2000-01 remained at a satisfactory level. Higher production and imports of items like pulses, edible oils, etc., have had a favourable impact on their prices. The price monitoring machinery at the Central as well as the State level is fully geared to up to tackle any situation of shortage or sudden spurt in prices of essential commodities.

CONSUMER COOPERATIVES

The consumer cooperatives are playing an important role in providing essential and other commodities to the public at reasonable prices. The presence of consumer cooperatives help in strengthening the distributive network of essential commodities, stabilising the price-line, provide protection, etc., against artificial scarcity of goods by private traders, overcharging of prices, supply of sub-standard goods, etc. As a policy, the Government of India have been encouraging the development of consumer cooperatives so as to protect the interest of the common consumers.

Consumer cooperatives have built up a credible network. This comprises of about 24,228 primary consumers cooperative stores and 29 states co-operative federations affiliated to the NCCF of India Limited at the apex level.

These co-operative societies/stores are operating more than 14,420 retail outlets in the urban areas. In rural areas, about 5,392 village societies are engaged in distribution of essential commodities. Both the State government and Central Government utilise the services of the consumer co-operatives for undertaking the distribution of these commodities. Out of 4,61,079 fair price shops functioning in the country (up to September 2000), 96,550 shops are in the co-operative sector.

From the current year onwards, NCCF has been nominated as Nodal Agency to operate the *Sarvapriya* Scheme launched by the Government of India nation-wide. Accordingly, NCCF has been distributing 11 essential items like salt, tea, edible oil, toilet soaps, a few varieties of pulses, etc., in the selective states, F.P.S., co-operatives and state civil supplies corporations. These items are being supplied at rates lesser than the market prices.

THE CONSUMER PROTECTION ACT, 1986

The Consumer Protection Act, 1986 (68 of 1986) is one of the most progressive and comprehensive pieces of legislation enacted for the better protection of consumers providing redressal mechanism in the Act itself. It was enacted after an in-depth study of the consumer protection laws in a number of countries and in consultation with the representatives of consumers, trade and industry and after extensive discussions within the Government. All the provisions of the Act came into force with effect from 1 July 1987. The Act was amended in 1991 and 1993 to extend its coverage and scope and to enhance the powers of the redressal machinery. Action has been taken to further amend this Act, to facilitate quicker disposal of cases by the Consumer Forums. The Consumer Protection (Amendment) Bill 2001 has been introduced in the Rajya Sabha on 26 April 2001.

The salient features of the Act are : (i) It applies to all goods and services unless specifically exempted by the Central Government; (ii) It covers all the sectors whether private, public or cooperative. The provisions of the Act are compensatory in nature; (iii) It enshrines the following rights of consumers: (a) right to be protected against the marketing of goods and services which are hazardous to life and property; (b) right to be informed about the quality, quantity, potency, purity, standard and price of goods or services so as to protect the consumers against unfair trade practices; (c) right to be assured, wherever possible, access to a variety of goods and services at competitive prices; (d) right to be heard and to be assured that consumers' interests will receive due consideration at appropriate fora; (e) right to seek redressal against unfair trade practices or unscrupulous exploitation of consumers; and (f) right to consumer education; (iv) The Act also envisages establishment of Consumer Protection Councils at the Central and State levels, whose main objectives are to promote and protect the rights of the consumers; (v) To provide a simple, speedy and inexpensive redressal of consumer grievances, the Act envisages a three-tier quasi-judicial machinery at the national, state and district levels. These are : National Commission, State Consumer Disputes

Redressal Commissions known as State Commissions and District Consumer Disputes Redressal Forum known as District Forum; and (vi) The provisions of this Act are in addition to and not in derogation of the provisions any other law for the time being in force.

At present there are 32 State Commissions, one in each State/UT and 569 district fora besides the National Commission. Three more State Commissions are being set up by State governments of Chhattisgarh, Uttaranchal and Jharkhand states. The State governments have to set up the district fora and the State Commissions whereas the Central Government has to set up the National Commission. With the awareness created by the Government, consumer associations and the media, the inflow of cases in these courts is increasing day by day.

The Ministry of Consumer Affairs, Food and Public Distribution is monitoring the disposal of cases by the consumer courts. Since its inception and up to 30 December 2000, 21,356 cases have been filed and 11,841 cases disposed of in the National Commission. Similarly 2,08,795 cases have been filed and 1,26,164 cases disposed of in the State Commissions and 14,39,800 cases filed and 11,95,174 cases disposed of in the district fora. The Government had launched a scheme of a one-time grant of Rs 61.80 crore to supplement the efforts of the States/UTs for strengthening the infrastructure of the consumer courts. Each State Commission had been given Rs 50 lakh and each district forum Rs 10 lakh under the scheme in four equal instalments. A decision has been taken to observe 24 December every year as 'National Consumer Day'.

CONSUMER WELFARE FUND

A Consumer Welfare Fund (CWF) was created in 1992 with the objective of providing financial assistance to promote and project the welfare of consumers, develop consumer awareness and strengthen the consumer movement in the country, particularly in rural areas. The Fund set up by the Department of Revenue under the Central Excise and Salt Act, 1944, is being operated by the Ministry of Consumer Affairs, Food and Salt Act, 1944, is being operated by the Ministry of Consumer Affairs, Food and Public Distribution. The Central Excise and Salt Act, 1944 was amended in 1991 to enable the Central Government to create the CWF where the money which is not refundable to the manufacturers, etc., shall be credited.

Under the Consumer Welfare Fund Rules (CWFR), any agency/organisation which is engaged in the consumer welfare activities for a period of three years and is registered under any law for the time being in force, village/mandal/samiti-level cooperatives of consumers, industries, State governments, etc., is eligible for seeking financial assistance from the Fund. The financial assistance is given mainly for creating consumer awareness, consumer education, preparation of publicity materials, setting up of facilities for training, research, community-based rural awareness projects, setting up of consumer products testing laboratories, etc. The total quantum of assistance

on an individual application is limited to Rs five lakh and 10 per cent contribution is required to be met by the applicant. However, under exceptional circumstances, 100 per cent assistance can be considered. At the end of March 2001, the Standing Committee of CWFR had approved 488 proposals involving an assistance of Rs 4.44 crore.

The Government approved a scheme for setting up of District Consumer Information Centre (DCIC) in each district of the country over a period of five years. Rs five lakh will be provided for each such centre. The State/UT governments have been advised to recommend proposals for the same. So far 18 proposals have been sanctioned and 22 proposals approved.

BUREAU OF INDIAN STANDARDS

To prepare national standards on products, materials, test methods, services, etc., Indian Standards Institution (ISI) came into existence on 6 January 1947 as a registered society, under a Government of India resolution. This set-up was provided statutory status through an Act of Parliament dated 26 November 1986 and the Bureau of Indian Standards (BIS) came into existence as national standards body on 1 April 1987.

The main functions of BIS include preparation and implementation of standards, operation of certification schemes both for products and systems, organisation and management of testing laboratories, creating consumer awareness and maintaining close liaison with international standards bodies. With its headquarters at Delhi, BIS has five regional offices at Kolkata, Chandigarh, Mumbai, Delhi and Chennai. It has 18 branch offices in the country. BIS is developing need-based standards in accordance with national priorities with the help of over 26,000 technical experts as members of the technical committees. The standardization projects are properly screened within BIS to ensure their usefulness. During 2000-01, more than 300 standards were formulated. Presently, 17,600 Indian Standards are in force covering important segments of the economy which help the industry in upgrading the quality of their goods and services. BIS has harmonized/aligned over 3,000 Indian standards with International Standards and Standards of other countries to facilitate India's export to the global markets.

BIS Product Certification Marks Scheme provides the consumer an assurance of product quality conforming to national standards. The total number of operative licences was 15,083 as on 31 March 2001, covering more than 1,000 different items ranging from food products to electronics. This scheme is basically voluntary in nature. However, keeping in view the safety, health and mass consumption of certain products, it has been made mandatory for 133 items like LPG cylinders, steel products, cement, food colours, mineral water, etc. During 2000-01, BIS officers conducted 23 search and seizure operations to curb misuse of standard mark.

BIS Quality System Certification Scheme based on International Standards of Quality Management (ISO 9000 series standards) has 747 operative licences

as on 31 March 2001. The scheme has received accreditation in 23 technology sectors from the Raad voor Accreditatie (RvA) of Netherlands, an international accreditation body of repute. BIS has also started HACCP integrated Quality System Certification, which provides the dual benefit of award of certificate for HACCP and ISO 9000 through a single audit. It will help the exporters in the field of food and food products. BIS has so far granted 23 licences under HACCP integrated Quality System Certification scheme.

In view of the growing consensus for greener environment, BIS has adopted the ISO standards pertaining to Environment Management System (ISO 14000 series), launched EMS Certification scheme and granted 20 licences under this scheme so far. Around 30,000 samples are being tested in eight BIS laboratories every year in addition to samples being sent to outside labs.

BIS has been a member of International Organisation for Standardisation (ISO) and International Electrotechnical Commission (IEC). BIS has also been functioning as the Central Enquiry Point under World Trade Organisation (WTO) for providing worldwide information on standards, certification system and technical regulations to the Indian industry and trade.

Rajiv Gandhi National Quality Award was instituted in 1991 to inculcate the spirit of competitiveness among the manufacturers. The awards for the year 1999 have been finalized.

BIS has also been nominated as the sole agency for Hallmarking of Gold Jewellery in India by the Government of India as per relevant Indian standards under BIS Act, 1986.

BIS has brought out two Indian Standards namely IS 13428:1998 Natural Mineral Water and IS 14543:1998 Packaged Drinking Water and granted 50 licences for packaged drinking water and three licences for natural mineral water.

With a view to facilitate certification of foreign/imported products and ensure that the levels of quality prescribed in national standards are adhered to in import of goods, BIS has introduced Certification scheme for foreign manufacturers and Certification scheme for importers. Under the scheme for foreign manufacturers, seven licences have been granted to manufacturers in Nepal and Bhutan.

STANDARDS OF WEIGHTS AND MEASURES

One of the important reforms undertaken in the country after Independence was the standardisation of the system in weights and measures. Uniform standards of weights and measures, based on the metric system, were established in the country under the Standards of Weights and Measures Act, 1956. The Weights and Measures unit in the Ministry of Consumer Affairs, Food and Public Distribution is the nodal agency for all activities relating to the subject.

In order to establish the international system of units and to align our laws with international practices as well as to remove certain deficiencies, a comprehensive legislation, namely, the Standards of Weights and Measures Act, 1976, was enacted, replacing the 1956 Act. The new Act *inter alia* has provisions for regulation of pre-packed commodities so as to establish fair trading practices. Provisions of the Act relating to packaged commodities and relevant rules, namely, the Standards of Weights and Measures (Packaged Commodities) Rules, 1977, are in force since September 1977. According to these provisions every package intended for retail sale is required to carry information as regards the name of the commodity, name and address of manufacturers or packer, net quantity, month and year of manufacture/packing and retail sale price. Mandatory declaration of retail sale price is inclusive of all taxes. The Rules also have similar provision for regulation of packaged commodities imported into India. A Standing Committee for Packaged Commodity Rules has been constituted to examine various amendment proposals received from time to time in the Ministry and to make suitable recommendations. The concerned Ministries, consumer organisations, standard institutions and other related organisations are consulted before the amendments to the Rules are finalised.

Under the provisions of the 1976 Act, the models of all weighing and measuring instruments should be approved by the Central Government before commencement of their production. Under the relevant rules, namely, the Standards of Weights and Measures (Approval of Models) Rules, 1987, recognised laboratories examine the models for their conformity to the standards. These Rules are in force since 1987. The other Rules framed under the Act of 1976 are : (i) The Indian Institute of Legal Metrology Rules, 1980; (ii) The Standards of Weights and Measures (Inter-State Verification and Stamping) Rules, 1987; (iii) The Standards of Weights and Measures (Numeration) Rules, 1987; (iv) The Standards of Weights and Measures (General) Rules, 1987 and (v) The Standards of Weights and Measures (National Standards) Rules, 1988.

The Forty-second Amendment of the Constitution brought the subject of 'Enforcement of weights and measures' from the 'State List' to the 'Concurrent List'. To ensure uniformity in the matter of enforcement in the country, a Central Act, namely, the Standards of Weights and Measures (Enforcement) Act, 1985, was brought into force. It contains provisions for effective legal control on weights, measures and weighing/measuring instruments used in commercial transactions, industrial production and in protection involving public health and safety.

India is a member of the International Organisation of Legal Metrology. This organisation was set up in order to realise world-wide uniformity in laws relating to legal metrology (weights and measures) and to make international trade smooth and practical. Legal standards of the States and Union Territories are calibrated in three Regional Reference Standard Laboratories located at Ahmedabad, Bhubaneswar and Bangalore. These laboratories also provide

calibration service to the industries in their respective regions. They are among the recognised laboratories for conducting the model approval tests on weighing and measuring instruments. In the Ninth Plan, two laboratories are being established at Faridabad (Haryana) for the Northern region and at Guwahati for the North-Eastern region.

The Indian Institute of Legal Metrology, Ranchi, imparts training in legal metrology and allied subjects. Apart from the enforcement officials of the States, nominees from many African, Asian and Latin American countries also attend the programmes run by the Institute. The Institute has recently started imparting training to the non-judicial members of Consumer Disputes Redressal Agencies of the States.

19 Energy

ENERGY is an essential input for economic development and improving the quality of life. Development of conventional forms of energy for meeting the growing energy needs of society at a reasonable cost is the responsibility of the Government, *viz.*, Ministries of Power, Coal and Petroleum and Natural Gas. Development and promotion of non-conventional/alternate/new and renewable sources of energy such as solar, wind and bio-energy, etc., are also getting sustained attention from the Ministry of Non-Conventional Energy Sources. Nuclear energy development is being geared up by the Department of Atomic Energy to contribute significantly to the overall energy availability in the country.

POWER

Power development in India commenced at the end of the 19th century with the commissioning of electricity supply in Darjeeling during 1897, followed by commissioning of a hydro power station at Sivasamudram in Karnataka during 1902. In the pre-independence era, the power supply was mainly in the private sector that too restricted to the urban areas. The Electricity (Supply) Act was enacted in 1948. With the formation of State Electricity Boards during Five-Year Plans, a significant step was taken in bringing about systematic growth of power supply industry all over the country. A number of multi-purpose projects came into being and with the setting up of thermal, hydro and nuclear power stations, power generation started increasing significantly.

Electricity is a concurrent subject at entry 38 in list III of the Seventh Schedule of the Constitution of India. The Ministry of Power is primarily responsible for the development of electrical energy in the country. The Ministry is concerned with perspective planning, policy formulation, processing of projects for investment decision, monitoring of the implementation of power projects, training and man-power development and the administration and enactment of legislation with regard to thermal and hydro power generation, transmission and distribution.

The Ministry of Power is responsible for administration of the Indian Electricity Act, 1910, Electricity (Supply) Act, 1948 and Electricity Regulatory Commission Act, 1998 and to undertake such amendments to these Acts, as may be necessary from time to time, in conformity with Government's policy objectives.

The construction and operation of generation and transmission projects in the Central sector are entrusted to Central Sector Power Corporations, *viz.*, the National Thermal Power Corporation (NTPC), the National Hydroelectric Power Corporation (NHPC), the North Eastern Electric Power Corporation

(NEEPCO), and the Power Grid Corporation of India Limited (PGCIL). The Power Grid is responsible for all the existing and future transmission projects in the Central sector and also for the formation of the National Power Grid. Two joint-venture power corporations namely, Nathpa Jhakri Power Corporation (NJPC) and Tehri Hydro Development Corporation (THDC), are responsible for the execution of the Nathpa Jhakri Power Project in Himachal Pradesh and projects of Tehri Hydro Power Complex in Uttaranchal respectively. Two statutory bodies, *i.e.*, the Damodar Valley Corporation (DVC) and the Bhakra Beas Management Board (BBMB), are also under the administrative control of the Ministry of Power. Programmes of rural electrification are provided financial assistance by the Rural Electrification Corporation (REC) under the Ministry of Power. The Power Finance Corporation (PFC) provides term-finance to projects in the power sector. Further, the autonomous bodies (societies), *i.e.*, Central Power Research Institute (CPRI), the National Power Training Institute (NPTI) and Energy Management Centre (EMC), are also under the administrative control of the Ministry of Power. A Power Trading Corporation has also been incorporated primarily to support the Mega Power Projects in private sector by acting as a single entity to enter into Power Purchase Agreements (PPAs).

The installed power generation capacity in the country has increased from 1,400 MW in 1947 to 1,01,153.60 MW at the end of 2000-01 comprising 25,219.55 MW hydro and 71,906.42 MW thermal (including gas & diesel), 1,269.63 MW wind and 2,758 MW nuclear. A capacity addition programme of 4,764.70 MW has been fixed for the year 2001-02. Power generation during 2000-01 was 499.450 BUs comprising 408.208 BUs thermal, 74.346 BUs hydro and 16.896 BUs nuclear. The target of power generation for 2001-02 has been fixed at 530 BUs. The plant load factor has shown a steady improvement over the years and has improved from 52.8 per cent in 1990-91 to 69 per cent in 2000-01.

NATIONAL POWER GRID

The Union Government in 1980 approved in principle the establishment of a Centrally-owned and operated national power grid. The Power Grid Corporation of India Limited has been vested with the responsibility of developing the National Power Grid. A number of schemes have been planned for phased development of National Power Grid. Initially, keeping in view the wide variation in operational parameters of the regional grids, to start with, HVDC interconnections have been planned to interconnect Northern, Western, Southern and Eastern regions (Eastern and North-Eastern regions are already interconnected with AC lines). The interconnections between North and West (500 MW HVDC Back-to-Back at Vindhyachal), West and South (1,000 MW) HVDC Back to Back at Chandrapur and East and South (500 MW HVDC Back-to-Back at Gazuwaka) are already under operation. Besides there are a number of AC inter-regional links (State-owned), which are presently being utilised to exchange power between the regions in radial mode. Subsequently, National Grid would be strengthened through hybrid system consisting of high capacity HVDC and EHVAC lines. The inter-regional power transfer

capacity today is 4,350 MW. The basic framework of the National Power Grid shall be in place after completion of ongoing East-North Sasaram HVDC inter-connector scheduled for completion by 2002. The inter-regional power transfer capacity would become 4,850 MW by then. The inter-regional power transfer capacity is also planned to be enhanced up to 23,400 MW by 2007 and 30,000 MW by 2012 through establishment of various inter-regional AC and HVDC links along with transmission highways.

CENTRAL ELECTRICITY AUTHORITY

The Central Electricity Authority (CEA) is a statutory organisation constituted under Section 3(1) of the Electricity (Supply) Act, 1948. It was established as a part-time body in 1951 and made a full-time body in 1975. It is an attached office of the Ministry of Power. The Ministry of Power is assisted by CEA in all technical, financial and economic matters. CEA is responsible for technical co-ordination and supervision of programmes and is also entrusted with a number of statutory functions.

The CEA is particularly charged with the functions of developing a sound, adequate and uniform national power policy, formulate short-term and perspective plans for power development. It coordinates the activities of planning agencies in relation to the control and utilisation of national power resources, technical and commercial appraisal of power schemes, collection of data, evaluation of financial performance of SEBs, analysis of tariff structure in the power industry, training of personnel and promotion of research in power related matters.

CENTRAL ELECTRICITY REGULATORY COMMISSION

The Central Electricity Regulatory Commission (CERC) was constituted in July 1998. This is a quasi-judicial set up in the power sector. The Commission has been performing functions of regulating tariff of generating companies owned or controlled by the Central Government, regulating inter-State transmission tariff, to resolve disputes between generating companies and transmission utilities. The Commission has also issued orders on the Availability Based Tariff (ABT). The Electricity Laws (Amendment) Act, 1998 provides for grant of Transmission Licence by the CERC. In pursuance of this, the Commission has issued a "Transmission Licence document" for comments of all stake holders.

REFORMS AND RESTRUCTURING IN POWER SECTOR

The Indian Electricity Sector is beset with problems that impede its capacity to respond to the rapidly growing demand for energy. The monolithic structure of the State Electricity Boards with powers of operation (service providers) as well as regulation concentrated in them, has made them unwieldy and also unresponsive to the needs of time. Most of them have huge losses to their credit and owe large amounts for power purchase from CPSUs. These and other related problems have necessitated reforms in the power sector. Of late, the reform and restructuring process in the country has made a steady progress. In the Chief Ministers/Power Ministers Conference held on 3 March, 2001 chaired by the Prime Minister, reforms and related problems were

deliberated upon and an apolitical agenda has been adopted for the time-bound result. Some important resolutions arising out of the Conference are: (i) rural electrification to be treated as a basic minimum service under the Prime Minister's *Gramodaya Yojna*; (ii) rural electrification to be completed by the end of the Tenth Plan; (iii) full coverage of all households by the end of Eleventh Plan; (iv) energy audit a must at all 11 KV feeders; (v) complete metering by December 2001; (vi) tariff determination by regulatory commissions at Union and State Level; (vii) minimum agricultural tariff of 50 paise per unit; and (viii) demand side management programme like usage of energy efficient bulbs, tube lights, agricultural pumpsets and time of the day metering at differential tariff for peak and off-peak hours.

Central Electricity Regulatory Commission is fully functional. It was constituted to promote competition, efficiency and economy in bulk power markets, improve the quality of supply, promote investments and advise government on the removal of institutional barriers to bridge the demand-supply gap and thus foster the interests of consumers.

With the omission of sub-section (2) of Section 43A of the Electricity (Supply) Act, 1948 with effect from 11 September 2000, the State Electricity Regulatory Commissions (SERCs) of Andhra Pradesh, Karnataka, Uttar Pradesh, West Bengal, Madhya Pradesh and Delhi are now effectively having the tariff fixation powers within their jurisdiction.

The Ministry of Power has signed the MoU with most of the States, to undertake reforms in a time-bound manner with specific financial and technical support from the Government of India. The Central assistance includes, *inter-alia*: (i) Support for upgradation of transmission and distribution network including energy accounting and metering and renovation and modernisation of thermal/hydro generating units through Accelerated Power Development Programme (APDP); (ii) Provisions of additional power through: (a) allocation of additional power from Central Generating Stations; (b) development of new generating capacity through CPSUs; (c) support for enhancement of generating capacity in the State sector; (iii) Provision of necessary inter-State transmission lines and commitment to have PGCIL take up some identified intra-State lines; (iv) Provisions of additional financing by PFC in relaxation of standard requirements; (v) Financial assistance from other sources such as World Bank, ADB etc; and (vi) Support for structural adjustment financing for the transitional period.

The Electricity Regulatory Commission (Amendment) Bill, 1999 was passed by the Lok Sabha in April 2001. The Bill would help creation of Joint Electricity Regulatory Commission for two or more States/UTs.

RURAL ELECTRIFICATION

Rural electrification involves supply of energy for two types of programmes: (a) Production-oriented activities like minor irrigation, rural industries, etc., and (b) Electrification of villages. Rural Electrification Programmes are formulated and executed by the SEBs/State Power Departments. Under the rural electrification programme 5,08,065 villages out of 5,87,258 villages have

been electrified up to March 2001. Similarly, 1,27,67,681 pumpsets have been energised up to March 2001 out of the total estimated potential energisation of 19.5 million pumpsets. Under *Kutir Jyoti* Programme over 43.5 lakh single point connections were released at a cost of about Rs 261 crore to the rural households of families below-poverty line by March 2001.

POWER TRADING

As a step towards catalysing the development of mega power projects and optimum utilisation of existing resources by transfer of power from surplus locations to deficit locations at different points of time, Power Trading Corporation of India Limited has been set up with equity participation from PSUs and others. This agency will also work as nodal agency for exchange of power with neighbouring countries.

PUBLIC SECTOR UNDERTAKINGS AND OTHER ORGANISATIONS

NATIONAL THERMAL POWER CORPORATION

The National Thermal Power Corporation Limited (NTPC), New Delhi, was set up in 1975 as a Central sector generating company for the development of thermal power. NTPC is a schedule 'A' *Navratna* company having a total approved investment of Rs 44,957.87 crore. NTPC has an approved capacity of 22,955 MW and an installed capacity of 19,435 MW representing about 27 per cent of the all-India thermal capacity. At present, NTPC has to its credit 13 coal based thermal power projects and seven gas/liquid fuel based combined cycle projects. The Corporation has successfully commissioned coal based Super Thermal Power Projects at Singrauli, Rihand, Dadri (UP), Korba (Chhattisgarh), Vindhyachal (MP), Ramagundam (AP), Farakka (WB), Kahalgaon (Bihar), Talcher-Kaniha (Orissa) and seven combined cycle gas power projects at Anta (Rajasthan), Auraiya, Dadri (UP), Kawas and Gandhar (Gujarat), Kayamkulam (Kerala) and Faridabad (Haryana). In addition, the Corporation has taken over the 420 MW station at Unchahar (UP) (further added stage-II of 420 MW to the commissioned capacity of the project), 460 MW station at Talcher (Orissa) and 440 MW station at Tanda (UP). NTPC is in the process of implementing Talcher-Kaniha-II TPP (2,000 MW) in Orissa and Simhadri TPP (1,000 MW) in A.P. NTPC has also been entrusted with the management of 705 MW Badarpur Thermal Power Station (BTPS) in Delhi since 1978 and with the implementation and management of BALCO's 270 MW captive power plant near Korba (Chhattisgarh).

During the Ninth Plan, NTPC has already added 2,200 MW by March 2001. The corporate plan envisages NTPC to become a 40,000 MW plus company by the year 2012. NTPC has signed an agreement with the Government of Himachal Pradesh for the implementation of Kol Dam Hydro Project (800 MW). The Corporation earned an estimated profit of Rs 3,612 crore during 2000-01.

NATIONAL HYDRO-ELECTRIC POWER CORPORATION

The National Hydro-electric Power Corporation Limited (NHPC) was set up

in 1975 to promote the development of hydro-electric power in the Central sector in all its aspects including investigation, research, design, construction, operation and maintenance of hydro-electric power stations. NHPC is a schedule 'A' company of the Government of India with an authorised share capital of Rs 7,000 crore and an investment base of over Rs 10,000 crore. The Corporation has so far completed construction of eight hydro-electric projects in India, namely, Baira Siul (HP) 198 MW, Loktak (Manipur) 105 MW, Salal Stage-I&II (J&K) 345 MW each, Tanakpur (UP) 120 MW, Chamara Stage-I (HP) 540 MW, Uri (J&K) 480 MW and Rangit Stage-II (Sikkim) 60 MW. These power stations with a total installed capacity of 2,193 MW are being operated and maintained by NHPC and generated 9,580.75 MUs energy during 2000-01. The Corporation has also constructed Devghat Hydro-electric Project (14 MW) in Nepal. NHPC is presently engaged in the construction of Dulhasti HEP (J&K) 390 MW, Chamara Stage-II (HP) 300 MW, Dhauliganga Stage-I (UP) 280 MW, Teesta Stage-V (Sikkim) 510 MW, Loktak Downstream (Manipur) 90 MW and Koel-Karo HEP (Jharkhand) 710 MW. Construction of Kurichu HEP (60 MW) in Bhutan and Kalpong HEP (5.25 MW) in Andaman and Nicobar Islands has also been assigned on agency basis to NHPC. The Corporation has also been entrusted to execute seven projects in J&K with a combined installed capacity of 2,798 MW. NHPC has undertaken as joint venture projects the Indira Sagar (1,000 MW), Omkareshwar (520 MW) in Madhya Pradesh and Lakhwar Vyasi (420 MW) in Uttaranchal. NHPC has also taken up survey and investigation of the projects in Siang and Subansiri Basin with a total potential of 19,900 MW. NHPC also took up investigation of Parbati in Himachal Pradesh, Teesta Low Dam and Farakka Barrage in West Bengal.

The Corporation has been identified as a nodal agency by the Ministry of Power for taking up construction of the Cauvery Projects. The Corporation also proposes to diversify into wind power, mini/micro hydro projects and geo-thermal power. The capacity addition targets for the Tenth and Eleventh Plan periods are 1,517 MW and 4,005 MW respectively. During 2000-01 the Corporation earned a profit of Rs 443.19 crore. The Corporation also undertakes consultancy work in the field of hydro-electric power.

POWER GRID CORPORATION OF INDIA LIMITED

The Power Grid Corporation of India Limited (PGCIL) was incorporated as a Government of India enterprise on 23 October 1989 under the Companies Act, 1956 with an authorised share capital of Rs 5,000 crore. The mission of the corporation is establishment and operation of regional and national power grids to facilitate transfer of power within and across the regions with reliability, security and economy on sound commercial principles. It has been recognised as a *mini-ratna*.

As on 31 March 2001, Powergrid is operating about 40,189 ckt km of transmission lines consisting of 562 ckt km of 800 kV, 1,630 ckt km of HVDC system, 29,070 ckt km of 400 kV, 7,099 ckt km of 220 kV and 1,828 ckt km of 132 kV lines along with 66 sub-stations with 33,230 MVA transformation capacity. The transmission system availability is maintained consistently over 98 per cent by deploying best operation and maintenance practices at par with

international utilities and today Powergrid is the largest transmission utility in the world. Presently about 40 per cent of total power generated in the country is being transferred over Powergrid transmission network. During the year 2000-01, the organisation has earned a net profit of Rs 692.19 crore (provisional) on a turnover of Rs 2,695.05 crore (provisional). During the year 2000-01, Powergrid commissioned 1,172 ckt km of transmission lines including Kishenpur-Moga (ckt-II), Nathpa Jhakri-Abdullapur, Agartala-Kumarghat, Jalandhar-Hamirpur, Jalandhar-Dasuya, etc., and one 400/220 kV substation at Jalandhar having a transformation capacity of 1,575 MVA. Due to the concerted efforts made by Powergrid, at all India level energy exchange between different regions has increased from 7,350 MUs in 1999-2000 to 8,230 MUs during 2000-01. Powergrid is also playing a catalytic role in the development of SAARC Grid by facilitating interconnection with SAARC countries for mutual exchange of power and harnessing the vast potential of diversified resources and load patterns.

RURAL ELECTRIFICATION CORPORATION LIMITED

The Rural Electrification Corporation Limited (REC) was set up in 1969 with the primary objective of providing financial assistance for rural electrification in the country. REC was declared a public financial institution under Section 4-A of the Companies Act in 1992. Rural electrification programmes financed by the Corporation cover electrification of villages including tribal villages and *Dalit Bastis*, energisation of pumpsets, provision of power for small, agro-based and rural industries, lighting to rural households and street lighting. The Corporation has been providing assistance to the State Electricity Boards for taking up system improvement projects for strengthening of transmission and distribution system and small generation power projects like wind energy and hydel projects. REC is a schedule 'B' organisation.

During 2000-01, REC sanctioned loan assistance of Rs 6,308 crore for various schemes for creation and augmentation of rural power infrastructure and disbursed Rs 4,109 crore. Cumulatively up to March 2001, REC has sanctioned projects for loan assistance of Rs 28,589 crore and disbursed Rs 20,072 crore. The recoveries of loans in the year 2000-01 was Rs 3,582 crore. The net profit during the year has been of Rs 453 crore.

POWER FINANCE CORPORATION LIMITED

The Power Finance Corporation Limited (PFC), New Delhi, was incorporated on 16 July 1986 under the Companies Act, 1956 and was declared a public financial institution in August 1990. The main objectives of the Corporation include financing of power generation projects, transmission and distribution works, renovation and modernisation of power plants, system improvement and energy conservation schemes, maintenance and repair of capital equipment.

The authorised share capital of the Corporation is Rs 2,000 crore and paid-up capital is Rs 1,035.45 crore. Till 31 March 2001, it had sanctioned loans in the power sector amounting to Rs 30,674 crore and had disbursed Rs 19,222 crore against the sanctions. The Corporation has been consistently earning profits since commencement of its financial operation. The profit (after tax) has

been Rs 604 crore for 2000-01. The Corporation has been signing a MoU with the Government of India each year since 1993-94. During 2000-01 the Corporation sanctioned an amount of Rs 7,706 crore while the actual disbursement was Rs 3,230 crore.

NORTH-EASTERN ELECTRIC POWER CORPORATION LIMITED

The North-Eastern Electric Power Corporation Limited (NEEPCO), Shillong was constituted in 1976 under the Companies Act, 1956 with the objective of harnessing the power potential of the north-eastern region through planned development of power generation projects. NEEPCO is a Schedule 'B' organisation with an authorised share capital of Rs 2,500 crore. The projects under operation and maintenance of the Corporation for all the States in the North-East are Kopili Stage-I (150 MW), Assam; Kopili Stage-I Extension (100 MW), Assam; Assam Gas Based Combined Cycle Power Project (291 MW), Kathalguri, Assam; Agartala Gas Based Power Project (84 MW), Tripura; and Doyang HE Project (75 MW), Nagaland. These power stations generated 2,560.0342 MUs energy during 2000-01. The Corporation is also engaged in the execution of Ranganadi HE Project (405 MW), Arunachal Pradesh; Tuirial HE Project (60 MW) in Mizoram and Kopili HE Project Stage-II (25 MW) in Assam. The commissioning of all the three Units of 135 MW each of Ranganadi HE Project is scheduled within March 2002. The Corporation also envisages taking up the Kameng HE Project (600 MW) in Arunachal Pradesh, Tuivai HE Project (210 MW) in Mizoram, Tipaimukh HE Project (1,500 MW) in Manipur, Lower Kopili HE Project (150 MW) in Assam, Tripura Gas Based Project (500 MW) in Tripura and Ranganadi HE Project Stage-II (180 MW) in Arunachal Pradesh during the Ninth Plan period.

NATHPA JHAKRI POWER CORPORATION LIMITED

The generation component of the 6x250 MW Nathpa Jhakri Hydro-electric Power Project (NJHPP) was sanctioned in April 1989 for execution by the Nathpa Jhakri Power Corporation Limited (NJPC), Shimla, a joint venture of the Government of India and Government of Himachal Pradesh with equity participation in the ratio of 3:1 respectively. The authorised share capital of NJPC is Rs 4,500 crore.

The mission of NJPC is to plan, promote, operate and maintain Hydro-electric power projects in the Satluj river basin in Himachal Pradesh. The project envisages to harness the hydro-power potential in the upper reaches of river Satluj. On commissioning, the 1,500 MW NJHPP will generate 6,700 MUs of electrical energy. The project is poised for commissioning during 2003. The NJPC plans to take up more projects in the Satluj basin.

TEHRI HYDRO DEVELOPMENT CORPORATION LIMITED

The Tehri Hydro Development Corporation Limited (THDC) was incorporated on 12 July 1988 as a joint venture of the Government of India and the Government of Uttar Pradesh to execute the 2,400 MW Tehri Hydro Power Complex in Tehri Garhwal (Uttaranchal) and also to plan, promote and organise the development and harnessing of hydro-electric projects in Bhagirathi, Bhilangana valley as may be entrusted to the Corporation by the

Government. The Corporation has an authorised share capital of Rs 2,000 crore.

Tehri Power Complex comprises the 260.5 M high rock-fill Tehri Dam and 1,000 MW Hydro Power Plant (Stage I of the Complex); the 1,000 MW Tehri Pump Storage Plant at Tehri; and a 97.5 M high concrete Dam with 400 MW Hydro Power Plant at Koteshwar, along with 800 KV Associated Transmission System for evacuation of power.

The project will generate 6,500 million units of energy per year on completion of entire Complex (3,568 million units on completion of Stage-I) and will provide additional irrigation facility to 2.07 lakh ha. besides stabilising existing irrigation facility in 6.04 lakh ha. of land. The project will provide drinking water facilities for Delhi, and towns and villages of Uttaranchal and U.P. These projects are scheduled to be commissioned during the Tenth Plan.

DAMODAR VALLEY CORPORATION

The Damodar Valley Corporation (DVC) the first multipurpose river valley project of the Government of India, was set up on 7 July 1948 under DVC Act (XIV of 1948) for the unified development of Damodar Valley region spread over the States of Jharkhand and West Bengal. DVC's objectives include flood control and irrigation, power generation and distribution, soil conservation, social and economic well-being of the people of Damodar Valley region. DVC's main projects include four dams at Maithon, Panchet, Tilaiya and Konar, with connected hydro-electric power stations (except at Konar), thermal power station at Bokaro 'A', Bokaro 'B', Chandrapura, Durgapur, Mejia and also one gas turbine station at Maithon. DVC supplies power to coal mines, steel plants, railways and other big industries, besides State Electricity Boards of Jharkhand and West Bengal. DVC's transmission system runs to a total length of 5,441.97 ckt. km. The system is supported by 55 sub-stations and receiving stations. Interconnected with NTPC and Chukha, DVC system operates as a constituent of the interconnected grid system of EREB. The total installed capacity of DVC in March 2001 was 2,761.5 MW comprising 2,535 MW of thermal capacity, 144 MW of hydel capacity and 82.5 MW by gas turbine station.

BHAKRA BEAS MANAGEMENT BOARD

The Bhakra Beas Management Board (BBMS) manages the facilities created for harnessing the waters impounded at Bhakra and Pong in addition to those diverted at Pandoh through the BSL Water Conductor system. It was also assigned the responsibility of delivering water and power to the beneficiary states in accordance with their entitled shares. The Board is responsible for the administration, maintenance and operation at Bhakra Nangal Projects, Beas Project Unit I & Unit II including Power Houses and a network of transmission lines and grid sub-stations. The power generation at BBMB power stations is being evacuated through BBMB power evacuation system running into 3,755 circuit km length of 400 KV, 220 KV, 132 KV and 66 KV transmission lines and 24 KHV sub-stations. The installed capacity of BBMB power plants is 2,861.15 MW. The generation during 2000-01 was 10,424 MUs.

POWER TRADING CORPORATION OF INDIA LIMITED

Power Trading Corporation of India (PTC) was incorporated under the Companies Act, 1956 on 16 April 1999 primarily to support the mega power project in private sector by acting as a single entity to enter into Power Purchase Agreement (PPA) with Independent Power Producers (IPPs) on one side and multipartite/multilayer PPAs with the users/State Electricity Boards (SEBs) under long-term arrangement, thus insulating mega and other major project developers, IPPs from protracted negotiations with multipartite/SEBs and receivable risks. PTC has been facilitating trading of power from surplus to deficit State power utilities. PTC has entered into an agreement of purchasing 70 MW power from a CPP Hydro Station in HP and sale it to Delhi. It has been nominated as nodal agency for supply of power from Chukha hydro-electric project, Bhutan to the beneficiary states in eastern region and for power exchanges with Nepal. The existing exchanges with Nepal are of the order of 50 MW.

ENERGY MANAGEMENT CENTRE

The Energy Management Centre (EMC), New Delhi was established by the Government of India in April 1989 to act as a centre for information, research, training and international co-operation in the field of energy management. EMC had concluded the first phase of "Indo-German Technical Cooperation Programme" on energy conservation for Karnataka. The second phase of the programme includes: energy performance contracting and developing a mechanism for sustainable implementation of energy efficiency projects; accelerated penetration of monitoring systems; certification course and accreditation of energy managers; reduction of T&D loss and power consumption in rural areas. This programme is expected to last three years.

NATIONAL POWER TRAINING INSTITUTE

The National Power Training Institute (NPTI), Faridabad was set up in 1980 as an autonomous body to function as the national apex body for the human resource development of Indian power sector. It has four regional institutes at Neyveli, Durgapur, New Delhi and Nagpur. NPTI conducts training programmes for engineers, operators and technicians engaged in thermal, hydro power generation, transmission and distribution, etc. The Institute also conducts Post Graduate Diploma Course and Post Diploma Course in Thermal Power Plant Engineering at its regional institutes. NPTI has developed Computer-based Self-Learning Training Package (CBT), which is being used by a number of State Electricity Boards and power utilities. NPTI has state-of-the-art three real time power plant simulators of 210 MW and 500 MW thermal power plants at Badarpur, Nagpur and Faridabad respectively.

CENTRAL POWER RESEARCH INSTITUTE

The Central Power Research Institute (CPRI), Bangalore was established in 1960. It was reorganised into an autonomous society under the Ministry of Power in 1978. The Institute is managed by a governing body comprising members representing the government, the electrical utilities, the industries and academic institutions, etc. The objectives of the Institute are: (i) to serve as

a national centre for applied research in electrical power engineering; (ii) to function as an independent and impartial authority for testing and certification of power equipment manufactured in the country; (iii) to perform tests for product development and quality assurance; (iv) to undertake research programmes on subjects of interest in the field of power system; and (v) to offer consultancy on problems referred by utilities and industries.

The Institute has several laboratories and testing facilities. The main set up of the Institute is at Banagalore and the other units are located at Bhopal, Hyderabad, Nagpur, Ghaziabad, Thiruvananthapuram and Raichur.

PRIVATE SECTOR PARTICIPATION

The Government of India had announced a policy in 1991 which allowed private sector participation in power generation and distribution schemes. It was decided in February 1995 that no private power project proposal would be considered by Central Electricity Authority (CEA), if the project was not awarded through the invitation of tenders under the international competitive bidding route (ICB). However, certain categories of power projects, where the MOU/negotiation route is considered feasible, have been exempted from the requirement of ICB for award of the project.

So far, 55 private power projects have been given techno-economic clearance (TEC) by CEA and out of these 12 projects of around 4,000 MW capacity have been commissioned and 12 projects of around 4,600 MW capacity are under construction. In addition, there are several projects which are being set up by the private sector with the approval of the State governments and do not require the TEC of CEA. In all 27 projects with a capacity of around 5,900 MW have been fully commissioned, after announcement of the private power policy in 1991.

The Government of India had in 1994, identified eight projects for extending its counter-guarantee. Counter-guarantee has already been extended to five projects while in one case, the request for counter-guarantee was withdrawn by the promoter. Counter guarantee to the remaining two projects could be issued after the concerned State governments conveyed acceptance of the conditions prescribed in this regard.

To facilitate setting up of large sized thermal power plants in the country and in order to derive the economies of scale, revised mega power policy has been introduced. A number of projects have been identified as mega power projects. Power Trading Corporation (PTC) has been incorporated for the purpose of buying power from mega power projects under long-term Power Purchase Agreements (PPAs) and selling the same to the beneficiary States also under long-term PPAs. Certain fiscal concessions have been given to mega power projects to make the tariff cheaper.

COAL

Coal is the main source of energy in the country and accounts for about 67 per cent of the country's commercial requirement. Coal is also an essential input in steel and carbo-chemical industries.

COAL RESERVES

As on 1 January 2001 coal reserves of India (down to a depth of 1,200 metres) have been estimated by the Geological Survey of India at 2,13,905.51 million tonnes. The state-wise distribution of coal reserves is given in table 19.1.

TABLE 19.1: DISTRIBUTION OF COAL RESERVES

(in million tonnes)

State	Proved	Indicated	Inferred	Total
Andhra Pradesh	7,529.41	3,363.83	2,781.66	13,674.90
Arunachal Pradesh	31.23	11.04	47.96	90.23
Assam	259.37	26.83	34.01	320.21
Bihar-Jharkhand	35,147.58	28,444.18	5,582.83	69,174.59
Madhya Pradesh Chhattisgarh	14,017.30	22,102.07	8,199.65	44,319.02
Maharashtra	4,388.50	1,301.65	1,605.41	7,295.56
Meghalaya	117.83	40.89	300.71	459.43
Nagaland	3.43	1.35	15.16	19.94
Orissa	11,307.68	23,728.50	16,535.11	51,571.29
Uttar Pradesh	765.98	295.82	—	1,061.80
West Bengal	10,845.62	10,925.66	4,147.26	25,918.54
Total	84,413.93	90,241.82	39,249.76	2,13,905.51

PRODUCTION

Coal production during the year 2000-01 was 309.63 million tonnes (CIL 268.19 million tonnes; SCCL 30.27 million tonnes; Captive collieries 11.17 million tonnes).

Colliery Control Order, 1945 has been superseded with a new order called Colliery Control Order, 2000 according to which the price and distribution of all grades of coal with effect from 1 January 2000 has been de-regulated. Coal is distributed on the basis of linkages/sponsorship. Short-term linkages of important sector of economy like power and cement are decided on quarterly basis by Standing Linkage Committee set up under the Ministry of Coal. Linkages to non-core sector consumers are within the purview of Coal India Limited. Off-take of raw coal during 1999-2000 and 2000-01 to major sector of the economy is given in table 19.2.

TABLE 19.2 : OFF-TAKE OF RAW COAL

(in million tonnes)

Year	Power ¹	Steel ²	Loco	Cement	Fertilizer	Others	Total
1999-2000	224.74	21.40	0.01	9.50	3.37	47.41	306.43
2000-2001 ³	239.51	22.87	0.01	10.03	3.14	39.78	315.34

¹ Include washery middlings² Excluding imports³ Provisional

PROJECTS AND PLANNING

Under the revised delegation of power approved by Coal India Limited (CIL) Board on 29 December 1997, coal projects costing up to Rs 100 crore can be sanctioned by the Board of Directors of Coal India Limited (CIL), and coal projects costing up to Rs 50 crore can be sanctioned by the Board of Directors of Northern Coalfields Limited (NCL), Western Coalfields Limited (WCL), South-Eastern Coalfields Limited, (SECL), and Mahanadi Coalfields Limited, (MCL), subject to the condition that the project should be included in the approved Five Year and Annual Plans and outlays provided for and the required funds can be found from the internal resources of the company and the expenditure is incurred on schemes included in the capital budget approved by the Government. The Board of Directors of ECL, BCCL, CCL, and CMPDIL, can, however, sanction coal projects up to Rs 20 crore. SCCL Board can sanction coal projects up to Rs 50 crore.

Projects costing more than Rs 100 crore are sanctioned by the Government. After nationalisation of the coal industry in 1973 till December 2000, the number of projects sanctioned (each costing Rs two crore and above) was 464 with a total investment of Rs 23,095.94 crore. Out of 464 mining projects, 355 projects have since been completed (including projects where coal reserve have since exhausted) and 109 are under various stages of implementation. These projects on completion will have a capacity of 365.55 million tonnes of coal per annum.

MINING AND MINING TECHNOLOGY

Even though the history of Indian coal mining dates back more than two centuries, the real spurt in coal production took place only after the nationalisation of the coal industry. Coal production in the country is now almost completely in the public sector coal companies, *e.g.*, Coal India Limited (CIL) and Singareni Collieries Company Limited (SCCL), except for a few captive mines of TISCO, IISCO, DVC and Bengal Emta. Coal India Limited producing almost 90 per cent of the country's total coal production, has seven coal producing subsidiaries, namely, Eastern Coalfields Limited (ECL), Bharat Coking Coal Limited (BCCL), Central Coalfields Limited (CCL), Northern Coalfields Limited (NCL), South-Eastern Coalfields Limited (SECL), Mahanadi

Coalfields Limited (MCL) and Western Coalfields Limited (WCL). The eighth subsidiary Central Mine Planning and Design Institute Limited (CMPDIL) is the planning and design institute. SCCL is a joint venture of the Central Government and Government of Andhra Pradesh. About 76 per cent of the coal production is obtained through opencast mines which are mostly mechanised deploying draglines, shovels, dumpers, drills, dozers, etc. Mechanisation of underground mines has also been taken up. Most of the equipments used in coal mines are indigenously available. At present, there are 14 coking coal washeries with an annual capacity of 23.08 million tonnes in CIL.

COAL CONSERVATION

Conservation of coal is an integral part of mine planning and operation. This is ensured by maximum recovery of *in-situ* reserves of coal. Mechanised opencast mining in India is the most prevalent technology. The percentage recovery by this method is up to 90 per cent of the *in-situ* coal reserves. Since coal deposits in India are mostly in thick seams and occur at shallow depths, special techniques for maximising recovery are being developed for underground mining. Blasting gallery method is being increasingly used in mines of SCCL with excellent results. Coal India Limited and Singareni Collieries Company Limited have introduced mechanised longwall technology that ensures higher extractability. In steep and thick seams of Margheritta area of NEC (Assam) a system of Shield Mining has been introduced. The percentage of extraction is nearly 70 per cent which is an improvement over 32 per cent to 35 per cent in the conventional system.

The Coal Conservation and Development Act, 1974 provides for imposition of excise duty on coal despatches for meeting activities like conservation of coal, development/introduction of new technology in coal mines, safety in mines and assistance in mining operation. A number of research and development activities in coal sector are carried out under the overall guidance and supervision of the Standing Scientific and Research Committee and its four sub-committees. The applied research is carried out in the fields of production, productivity, safety, coal preparation, coal utilisation, environment and ecology.

SAFETY AND WELFARE

Special efforts to improve the standard of safety in the coal industry have brought down the rate of fatalities per million tonne of output in Coal India Limited to 0.37 in the year 2000. A Standing Committee on Safety regularly reviews safety standards in coal mines.

Coal India has 5.44 lakh employees as on 1 April 2001 and the coal industry employs over seven lakh workers. Since the nationalisation of coal mines, welfare of coal miners by way of providing facilities like housing, water supply, medical care, education, etc., is being given greater attention.

LIGNITE

Lignite reserves in India have been estimated at around 34,168 million tonnes. Out of this, 3,300 million tonnes is in the Neyveli area of Arcot district in Tamil Nadu and about 2,000 million tonnes have been identified as mineable under the presently adopted mining parameters. Geological reserves of about 1,150 million tonnes of lignite have been identified in Jayamkondam of Trichy district in Tamil Nadu. In Mannargudi and East of Veeranam, geological reserves of around 22,883 million tonnes and 1,422 million tonnes of lignite have been estimated respectively. Lignite reserves have been identified in Rajasthan, Gujarat and Jammu & Kashmir to the extent of 2,286 million tonnes, 1,527 million tonnes, and 128 million tonnes respectively.

Lignite reserves at Neyveli are exploited by Neyveli Lignite Corporation Limited (NLC). Incorporated as a private linked company in 1956, NLC was wholly-owned by the Government of India and converted into a public limited company with effect from 7 March 1986. Over the years, it has acquired considerable expertise and has established itself as a premier organisation in the field of lignite-mining and lignite-based power generation in the country. NLC is an integrated complex consisting of two lignite mines, thermal power stations, a fertilizer plant and a briquetting and carbonisation plant.

During 2000-01, NLC produced 181.72 lakh tonnes of lignite, 14,670.96 MU of power, 97,290 tonnes of urea and 86,426 tonnes of coke.

NON-CONVENTIONAL ENERGY SOURCES

The importance of increasing the use of renewable energy sources was recognised in our country in the early 1970s. During the past quarter century, a significant effort has gone into the development, trial and induction of a variety of renewable energy technologies for use in different sectors. The country has today among the world's largest programmes for renewable energy. The activities cover all major renewable energy sources of interest to us, such as biogas, biomass, solar energy, wind energy, small hydropower and other emerging technologies. Several renewable energy systems and products are now commercially available, and are also economically viable in comparison to fossil fuels. The Ministry of Non-Conventional Energy Sources (MNES) created in 1992 is the nodal agency of the Government of India for all matters relating to non-conventional/renewable energy. It undertakes policy making, planning, promotion and coordination functions relating to all aspects of renewable energy, including fiscal and financial incentives, creation of industrial capacity, promotion of demonstration and commercial programmes, R&D and technology development, intellectual property protection, human resource development and international relations.

India is implementing the programmes on renewable energy, covering the entire gamut of technologies, including improved *chulhas*, biogas plants, short rotation fuelwood tree species, biomass gasifiers, solar thermal and solar photovoltaic systems, wind farms, wind mills, biomass based cogeneration, small and micro hydel systems, energy recovery from urban, municipal and

industrial wastes, hydrogen energy, ocean energy, fuel-cell, electravans and gasohol. In each of these areas, there are programmes of resource assessment, R&D, technology development and demonstration. Based thereon, several renewable energy systems and products are now not only commercially available, but are also economically viable in comparison to fossil fuels. A large domestic manufacturing base has been established for renewable energy systems and products. India is the fourth largest producer in the world of solar cells and photovoltaic (PV) modules.

India now has very good R&D base for the development of technologies for harnessing renewable/non-conventional energy sources. A substantial manufacturing infrastructure and consultancy services have also emerged in the country for the design, manufacture and supply of non-conventional energy equipments. These include small scale and medium/large scale industries, both in the public sector as well as the private sector. India is now also in a position to offer its goods, technical expertise and services in this sector, particularly to developing countries. Technical guidance and help has been provided to many developing countries for the construction of biogas plants. Products, which are being exported, include solar photovoltaic systems, wind turbine equipments, selectively coated sheets for thermal applications and solar cookers. Indian made wind turbine and wind turbine components have been exported to Europe, Australia and Sri Lanka. Indian designs of gasifiers have attracted countries like Switzerland, Indonesia and USA. A Swiss company has installed Indian designs of gasifier based decentralised power generation units in Switzerland. Indian scientists and engineers have provided consultancy services on different aspects of non-conventional/renewable energy through various UN agencies like UNDP, UNESCO, UNIDO and similar other organisations.

ACHIEVEMENTS

India has today among the world's largest programmes for renewable energy. It is now recognised that renewable energy sources can provide the basis for sustainable energy development on account of their inexhaustible nature and environment-friendly features. During the last two decades, several renewable energy technologies have been developed and deployed in villages and cities. Some of the achievements are given in table 19.3 along with the estimated potential.

TABLE 19.3 : RENEWABLE ENERGY POTENTIAL AND ACHIEVEMENTS

Sl. No.	Source/System	Approximate Potential	Status (as on 31.03.2001)
1.	Biogas plants (No.)	120 lakh	32 lakh
2.	Improved Chulha (No.)	1,200 lakh	337 lakh
3.	Solar Water-Heating Systems	-	Over 5,50,000 sq mtr Collector area

Energy

4. Solar Photovoltaic Systems	20 MW/sq km	73 MW (including 23 MW of exports)
5. Biomass Power	19,500 MW	
(i) Biomass Gasifiers (Stand alone applications)		40.18 MW
(ii) Biomass combustion/gasifier based power generation		79 MW
(iii) Bagasse based Cogeneration		213 MW
6. Wind Power	45,000 MW	1,340 MW
7. Small Hydro Power	15,000 MW	1,361 MW (up to 25 MW capacity)
8. Solar Photovoltaic Power		1.61 MW grid connected & 884 KW non-grid connected
9. Integrated Rural Energy Programme		860 Blocks
10. Energy Parks		189 Nos.
11. Wind Pumps		714 Nos.
12. Aerogenerator/Hybrid Systems		92 KW
13. Solar PV Pumps		4,200 Nos.
14. Solar Cookers		5,08,000 Nos.
15. Energy Recovery from wastes	1,700 MWe	16.2 MWe.

RURAL ENERGY

A major achievement has been in the area of cooking energy in rural areas with the establishment of three million family size biogas plants and 32 million improved wood stoves, in both, India is second only to China. Only about a quarter of the total potential has been exploited so far. The biogas plants and improved wood stoves presently in use are resulting in a saving of over 13 million tonnes of fuelwood every year. In addition, enriched organic manure is produced from the biogas plants to supplement and complement expensive and environmentally degrading chemical fertilizers, equivalent to about nine lakh tonnes of urea per year.

NATIONAL PROJECT ON BIOGAS DEVELOPMENT

The National Project on Biogas Development was initiated in 1981-82 for the promotion of family type biogas plants which aims at providing clean and cheap source of energy in rural areas, producing enriched organic manure for supplementing the use of chemical fertilizers, improving sanitation and hygiene and removing the drudgery of women. Three types of designs of biogas plants, namely, the floating drum type KVIC design, fixed dome-type, and bag-type portable digester made of rubberised nylon fabric are being propagated under this programme. The most remarkable achievement of this programme has

been the acceptance by the rural people of the human night-soil as feed material in addition to other bio-degradable materials like animal dung, kitchen wastes, water hyacinth, etc.

Biogas programme is implemented by the State governments and Union Territory administrations, the State corporate and registered bodies, the KVIC, Mumbai, Non-Governmental Organisations are also being given targets for implementation of biogas programme. In order to propagate large-scale use of biogas technologies in rural India, the Ministry is providing financial subsidy and other financial support to the consumers and also to the entrepreneurs, corporate bodies and NGOs for the installation of biogas plants on turn-key basis with free maintenance and servicing warranty for the first three years. Additional subsidy is given to sanitary toilet-linked biogas plants and also incentives for saving diesel. The State governments and other implementing agencies are provided service charges linked with targets for organisational set-up at different levels. Technical Back-up Units (TBUs) set up at nine locations are providing technical and training support in a decentralised manner. Apart from this, biogas extension centres are also sanctioned. Commercial and co-operative banks are providing loans for setting up of biogas plants under the agricultural priority area scheme. The National Bank for Agriculture and Rural Development continues to provide automatic re-financing facility to the banks for the loan amounts disbursed for biogas plants.

Apart from the family-size biogas plants, community, institutional and night-soil based biogas plants are also being installed for different applications. This scheme is also being implemented by the State government departments, State nodal agencies and the NGOs.

Up to the end of 2000-01, a total of 32 lakh biogas plants have been installed which are estimated to generate fuel gas equivalent to the saving of about 39 lakh tonnes of fuel wood per year. Besides, these plants are generating enriched organic manure containing nitrogen equivalent to about nine lakh tonnes of urea per annum for supplementing chemical fertilizers and improving soil fertility. The Ministry is constantly conducting R&D with a view to improve the technology and reduce the cost of biogas plants. Efforts are also made to develop technology for use in cold climatic regions of the country.

NATIONAL PROGRAMME ON IMPROVED CHULHAS

The National Programme on Improved *Chulhas* (NPIC) was launched during 1986-87 with the objectives of fuel conservation, removal/reduction of smoke from kitchens, check on deforestation and environmental degradation, reduction in drudgery of women and consequent health hazard and employment generation in rural areas. As a result of continuing R&D efforts, different types of improved *chulhas* have been developed. These are available as fixed and portable types. While the traditional *chulhas* have an efficiency of 8-10 per cent, these improved *chulhas* have a minimum thermal efficiency of 20-25 per cent. In order to ensure the quality and durability, the Bureau of Indian Standards (BIS) has already introduced ISI marking scheme on portable *chulhas*. The Technical Back-up Units (TBUs) located at eight different locations

act as Test Centres for the BIS. The programme is implemented through a writ-model, multi-agency approach involving State nodal departments, State nodal agencies and corporate bodies, KVIC, and NGOs. MNES provides financial and technical assistance in the implementation of programme both to users and the implementing agencies.

A total of over 33.70 million improved *chulhas* have been installed till the end of 2000-01. These are expected to be saving over 105 lakh tonnes of fuel wood per annum besides, reduction in the drudgery to the women, improvement in kitchen environment resulting in reduction of health hazards, check on deforestation, etc.

INTEGRATED RURAL ENERGY PROGRAMME

The Integrated Rural Energy Programme (IREP) was launched as a regular plan scheme during Seventh Five Year Plan. The objectives of IREP are provision of energy for meeting the basic needs of cooking, heating and lighting, specially for the weaker sections by utilising locally available resources to the extent possible, and provisions of energy as the critical input in the economic development of rural areas that would result in the creation of employment, increase in productivity and income, besides accelerating the process of decentralised development.

The programme has now been extended to 860 blocks. Nineteen State-level technical back-up units and 171 district-level technical back-up units have been sanctioned under the programme. Besides, 22 block-level national pilot projects have been sanctioned in the existing IREP blocks for replication in other blocks. Under the IREP programme, Regional Training-cum-R&D Institutes at village Bakoli (Delhi), Lucknow (UP), Bangalore (Karnataka), Village Amrol in Kheda District (Gujarat) and Shillong (Meghalaya) have been sanctioned, and the three centres, at Delhi, Lucknow and Bangalore are already operational.

SPECIAL AREA DEMONSTRATION PROGRAMME

The Special Area Demonstration Programme (SADP) was started in 1992-93 for demonstrating the renewable/non-conventional energy systems in remote, far-flung areas, hilly terrain, islands and such other difficult areas which are unelectrified for meeting their energy needs. Energy Park Scheme for setting up at educational institutions was taken up in 1994-95 under SADP, with a view to create awareness and give publicity amongst the students, teachers and public. 235 energy parks have been sanctioned till 31 March 2001.

SOLAR ENERGY

India receives 5,000 trillion Kwh of solar radiation per year. Most parts of the country have 300 clear sunny days in a year. It is possible to generate 20 MW solar power per square kilometre land area. Presently solar energy is being utilised through two different routes, namely, solar thermal route and solar photovoltaic route. The technology for the manufacture of the cells and panels has been developed and commercialised almost entirely on the basis of domestic R&D. India is one of the six countries which have developed the

technology for manufacture of polysilicon material. About 18 MW of module production was achieved, which is seven per cent of the world production. About 45 companies are involved in production of solar cells, modules and systems. Over 100 companies are involved in the local production of solar thermal systems such as solar cookers and solar water heaters.

SOLAR THERMAL ENERGY PROGRAMME

Solar energy can be converted into thermal energy with the help of solar collectors and receivers. With the increasing demand for thermal energy in different sectors, there is vast scope for the utilisation of solar thermal devices. The solar-thermal devices are being utilised for water heating, space heating, cooking, drying, water desalination, industrial process heat, steam generation, for industrial and power generation applications, operation of refrigeration systems, etc. These devices have been put under three categories, viz., low-grade heating devices up to the temperature of 100 degree centigrade, medium grade solar thermal devices between the temperature of 100° C and 300° C and high temperature solar thermal devices above 300° C. By making use of solar concentrators and properly designed receivers, steam at temperatures of up to 1000° C can be generated utilising solar energy.

Low-grade solar thermal devices like solar water heaters, air heaters, solar cookers, solar dryers, etc., have already been developed in the country and are being utilised for various applications. Solar water heaters of capacity ranging from 50 litres per day to 2,10,000 litres per day for domestic, commercial and industrial applications have been installed in the country. These technologies have been developed indigenously.

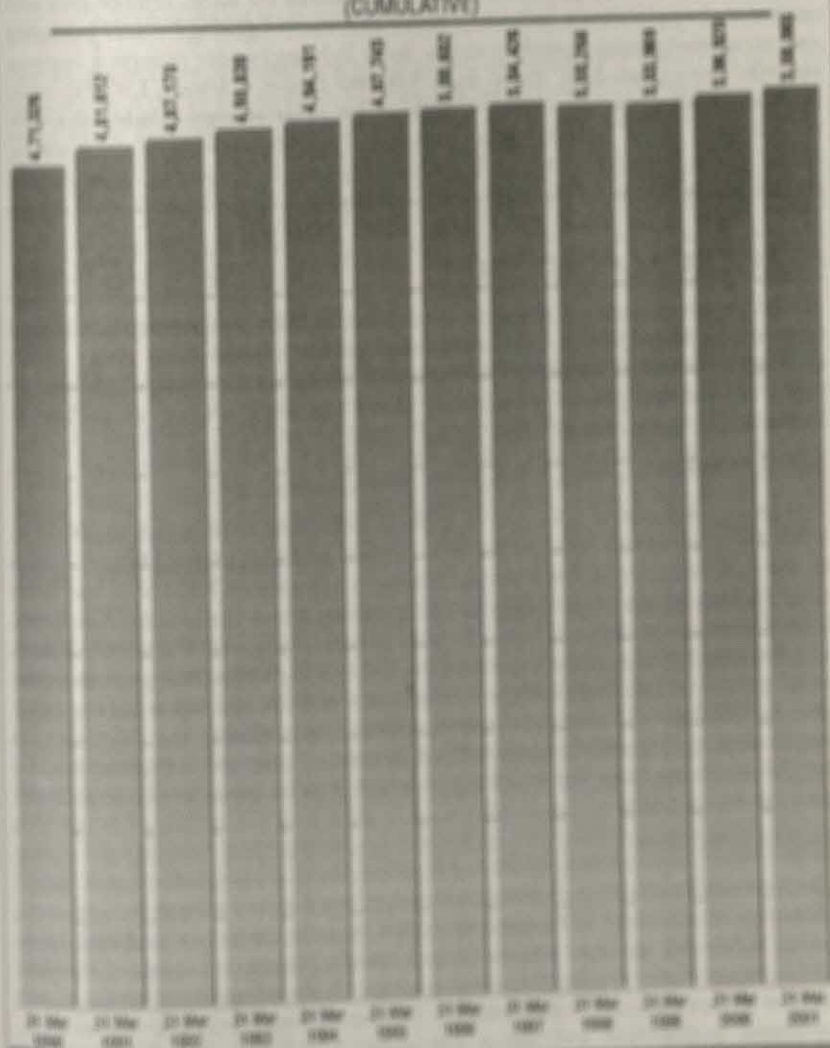
In the area of solar energy utilisation, solar thermal technologies are now finding ready acceptance for a variety of applications. Over 5,50,000 square metres of collector area has so far been installed ranging from domestic water heaters of 50-100 litre capacity in over 50,000 homes to industrial and commercial systems of up to 2,40,000 litres of hot water per day. Around half a million box type solar cookers are also in use. The world's largest solar steam cooking system for cooking food for 10,000 people has been installed at Mount Abu, Rajasthan by the Brahmanikumaris and is functioning well since April 1990. Efforts are also on to make use of the solar passive architecture to reduce the energy consumption and improve the comfort conditions in buildings. Green House Technology for growing vegetables, flowers, etc., in cold climatic regions has also been successfully developed and introduced in the market. The Ministry has already initiated efforts to open marketing outlets. The "Aditya Solar Shops" are being set-up in major cities and towns with financial support of the Ministry to State nodal agencies and NGOs for promoting sale of NRSE gadgets, servicing and repair of devices and dissemination of information.

SOLAR PHOTOVOLTAIC PROGRAMME

Solar Photovoltaic (SPV) technology enables the conversion of solar radiation into electricity without involving any moving part like turbine, etc. The photovoltaic systems have emerged as useful power source not only for

PROGRESS OF RURAL ELECTRIFICATION

VILLAGES ELECTRIFIED
(CUMULATIVE)



applications such as lighting, water pumping and tele-communications, but also as power plants for meeting the electricity needs of villages, hospitals, lodges, etc.

Over 8,50,000 Solar PV systems aggregating to about 50 MW have been deployed. In addition, SPV products of 23 MWp capacity have been exported. These involve around 32 different types of systems for rural, remote area and commercial applications, including home and street lighting/ water pumping and rural telecommunication systems. Solar lighting/ water pumping systems are now being used in more than 5,00,000 homes. About 1,90,000 rural radiotelephones are also being powered by solar energy. Under the SPV programme, about 3,50,000 solar lanterns; 1,50,000 home lighting systems; 41,000 street lighting systems; 4,200 water pumping systems and non-grid power plants of one MWp aggregate capacity have been installed till March 2001.

POWER FROM RENEWABLES

A total power-generating capacity of about 3,041 MW has so far been added from renewables. Most of the renewable energy capacity has come about through commercial projects. There are four major areas of renewable energy being tapped for power generation. These are wind energy, small hydro, biomass and solar energy.

WIND POWER

The gross wind power potential of India is estimated to be about 45,000 MW, while the present technical potential is limited to about 13,000 MW governed by the grid capacity in the potential States. A capacity of 1,340 MW has been added so far, which places India in fifth position in the world, after Germany, USA, Denmark and Spain. The package of policies along with the establishment of a domestic wind turbine industry have led to this phenomenal growth in the wind power sector. Wind turbine equipment worth Rs 50 crore were exported during 2000-01. To support wind energy programme the Ministry is implementing the world's largest Wind Resource Assessment Programme. So far 208 locations have been identified which can be considered suitable for wind power projects.

BIOMASS POWER

The National Programme on Biomass Power/Cogeneration aims at the optimum utilisation of a variety of biomass materials, namely, forestry-based and agro-based industrial residues and dedicated energy plantations, besides forestry and agro residues for power generation through the adoption of efficient and state-of-the-art conversion technologies. These include combustion/incineration, pyrolysis, gasification, etc., using gas/steam turbine, dual fuel engine/gas engine or a combination thereof, either for generation of power alone or for cogeneration of more than one energy forms—steam, and power of minimum one MW capacity grid interfaced.

The potential of biomass power in the country has been estimated at about 19,500 MW including surplus power generation potential of around

3,500 MW from bagasse based cogeneration from existing sugar mills in the country. So far, a total capacity of 292 MW biomass based power generating systems have been installed in the country. Projects of capacity of 384 MW are under installation. Fourteen States have announced their policies covering buy-back, wheeling and banking of generated electricity by the State Electricity Boards.

SOLAR PHOTOVOLTAIC POWER

The Ministry is implementing a programme to install SPV power projects of capacity 25-100 KW for three niche applications : (i) roof-top systems on public buildings to demonstrate peak load saving applications in major urban centres, (ii) distributed grid T&D support systems in remote rural areas at tail-end grid sections, and (iii) in island and remote locations as diesel saver. Twenty-one projects of 1.6 MW total capacity have so far been installed. Seventeen grid interactive SPV projects of aggregate capacity 1.3 MW are under installation in different parts of the country.

SOLAR THERMAL POWER

It is proposed to install a 140 MW integrated solar combined cycle power plant including a 35 MW solar thermal system at village Mathania, in Jodhpur district, Rajasthan. This power plant is to be funded by the Government of India, State government of Rajasthan, the Global Environment Facility and the Government of Germany through KfW. The Government of India has accorded approval of the project in February 2000.

SMALL HYDRO POWER

The potential of small hydro power in the country has been assessed at about 15,000 MW. By the end of March 2001, a total of 1,361 MW small hydro projects up to individual capacity of 25 MW have been installed and projects of over 180 MW are under construction. Thirteen potential States have announced their policies for inviting private sector to set up small hydro power projects. The Ministry of Non-conventional Energy Sources is the administrative Ministry responsible for small hydro projects up to 25 MW. The small hydro projects are also being installed through community participation under the UNDP/GEF Hilly Hydro Project and by promoting portable micro hydel sets. Renovation and modernisation of old small hydro projects, and upgradation of water mills have also been taken up under the programme. An apex technical institution, namely, Alternate Hydro Energy Centre to promote the small hydro programme in the country has been in existence at the University of Roorkee for over a decade-and-a-half.

BIOMASS PROGRAMME

Under the biomass gasification programme, biomass gasifiers have been developed for generating thermal energy for industrial applications, for water pumping and also for power generation up to 500 KW capacity. These gasifiers make use of wood chips and other biomass. Biomass gasifiers of total capacity of 40.18 MW have so far been installed in the country.

Under the briquetting programme, agricultural and forest residues, are being utilised for making briquettes.

ENERGY FROM URBAN AND INDUSTRIAL WASTES

The research projects sponsored by the Ministry have contributed for development of technologies for processing and treatment of various wastes like municipal wastes, vegetable market wastes, wastes from leather industry, distilleries, sugar mills, pulp and paper mills, etc., which are readily available for adoption. Realising the importance of treatment of wastes and the potential for recovery of energy, the Ministry has been implementing a National Programme on 'Energy Recovery from Urban, Municipal and Industrial Wastes' since 1995 with a view to promote the adoption of appropriate technologies as a means of improving waste management practices in the country.

A National Bio-Energy Board (NBB) has been set up in the Ministry as an apex body under the Chairmanship of Secretary, MNES, for providing policy guidance and direction for execution of a UNDP/GEF assisted project on "Development of high rate biomethanation processes" and for development of bio-energy sector in the country.

NEW TECHNOLOGIES

The Ministry of Non-Conventional Energy Sources (MNES) is implementing programmes and projects on new and emerging renewable energy technologies such as fuel cells, hydrogen energy, electric vehicles geothermal energy and tidal energy. A number of research and academic institutions, universities, CSIR laboratories and industries, etc., are being involved in these efforts.

Fuel Cells : Fuel cells produce electricity, through reaction between hydrogen and oxygen gases. Hydrogen is the primary fuel for fuel cells, which can be produced from renewable sources of energy. Because of modular nature, fuel cells are ideally suited for distributed power generation. A pre-commercial proton exchange membrane fuel cell stack (5 kW), has also been developed for stationary/portable power generation and automatic applications. Efforts are being made to commercialise the production of fuel cell systems in the country. The large-scale introduction of fuel cells would help in reducing the dependence on scarce fossil fuels and in keeping the air clean and free from pollution.

Hydrogen Energy : The Ministry is undertaking R&D projects on various aspects of hydrogen energy including production, storage and use of hydrogen as a fuel. As a result, the application of hydrogen in fuel cells for power generation has been demonstrated. Hydrogen-fueled small power generating sets, two-wheelers and catalytic combustors have been developed and demonstrated. The Ministry has launched a pilot project for demonstration and field-testing of 50 hydrogen-fueled motorcycles.

Electric Vehicles : Electric Vehicles (Evs) are driven by an electric motor instead of petrol or diesel engine. The motor draws power from rechargeable batteries or fuel cells. Evs provide environmentally clean, noise-free, energy-efficient sustainable transportation. One of the key components of the battery-

powered Evs is the rechargeable batteries. MNES is implementing research, development and demonstration projects on Evs and related aspects. The Ministry has sanctioned research and development projects on development of advanced, high energy density batteries and fuel cells for operating electric vehicles. The Ministry is also supporting projects for the development of battery-powered cycle rickshaws, three-wheelers and for extensive testing of passenger cars. A project for the development of three-phase AC vector control drive for electric vehicles was also implemented by BHEL, Bhopal.

Geothermal Energy : Geothermal energy is a vast reservoir of heat energy in the interior of the earth. About 340 geothermal hot springs have been identified by the Geological Survey of India throughout the country. Use of geothermal energy has been demonstrated for small scale power generation and thermal applications. Geothermal potential for direct heat applications and also for power generation is being assessed. Recently, a project for the installation of a Geothermal Power Plant of 300 KW capacity at Tattapani Geothermal Fields, Chhattisgarh and investigations for a megawatt size power plant has been sanctioned to NHPC. Investigations for assessing the capacity of the reservoir and assessing the possibility of a power plant are being carried out by National Geophysical Research Institute, Hyderabad at Puga Geothermal Fields, J&K.

Ocean Energy : The Ocean, which covers about 71 per cent of earth surface, acts as a natural collector of solar energy. The temperature gradients, waves and tides contained by ocean can be used to generate electricity in an environment-friendly manner. However, with the present technological development, only tides can be harnessed for large-scale development. Based on a techno-economic feasibility report, a detailed project report is being prepared for the establishment of a three MW mini-tidal power project in Durgaduani Creek of Sunderbans area in West Bengal. A status report on wave energy technologies and thrust areas for further research has been prepared through M/s MECON Limited, Bangalore.

The Ministry has established the following institutions for technology development and application of various renewable energy sources : (a) Solar Energy Centre : This is an apex institution dedicated to research, development, testing and certification, and promotion of solar energy technology in India. The Centre functions from its own campus on the Gurgaon-Faridabad road at Gwal Pahari (Haryana). It functions as the national body for the testing and certification of solar energy products. The Centre coordinates the cooperation in the field of solar energy among the Group of 15 (G-15) developing countries and participates in other international activities; (b) Sardar Swaran Singh National Institute of Renewable Energy (SSS NIRE), an autonomous registered society, has been established near Jalandhar in Punjab. The SSS NIRE will act as the technical focal point for conducting state-of-the-art R&D in renewable energy and developmental activities in various areas relating to non-conventional/renewable energy sources, including human resource development at all levels and commercialisation of renewable energy technologies; and (c) Centre for Wind Energy Technology (C-WET) : It has been established as an autonomous body (registered society) at Chennai which

will serve as the technical focal point for wind power development in India, with the objectives of promoting and accelerating the utilisation of wind power and supporting the growing wind power sector in the country. In addition, nine regional offices have been set up at Ahmedabad, Bhubaneswar, Chandigarh, Chennai, Bhopal, Guwahati, Hyderabad, Lucknow and Patna.

PUBLIC SECTOR UNDERTAKING

In order to provide concessional financial support to the renewable energy sector, the Ministry has set up under its fold a financial institution, the Indian Renewable Energy Development Agency Limited (IREDA), as the only agency of its kind in the world. Established in March 1987, as a public sector enterprise with the main objective of administering a revolving fund to promote, develop and finance NRSE technologies, IREDA has an authorised share capital of Rs 300 crore and a paid-up share capital of Rs 223.35 crore as on 31 March 2001. IREDA has sanctioned 1,453 projects at the end of March 2001 in various renewable energy sectors like wind, small hydro, solar, bio energy, energy efficiency and conservation. The cumulative loan sanctions and disbursements were of the order of Rs 4,589.27 crore and Rs 2,129.20 crore respectively. The sanctioned capacity was to the tune of 1,654 MW and 9.43 lakh metric tonnes coal replacement. The projects already commissioned have started generating electricity and producing/conserving energy.

NEW THRUST TO RENEWABLE ENERGY PROGRAMMES

Major policy initiatives taken to encourage private/foreign direct investment to tap energy from renewable energy sources include provision of fiscal and financial incentives under a wide range of programmes being implemented by the Ministry, and simplification of procedures for private investment, including foreign direct investment in renewable energy projects. The fiscal incentives provided for this purpose include 100 per cent depreciation in the first year of the installation of the project, exemption from excise duty and sales tax and concessional customs duty on the import of material, component and equipment used in renewable energy projects. In addition, the Government provides financial incentives, such as interest subsidy and capital subsidy from the Ministry and soft loans from IREDA. Fourteen States have so far announced policies in respect of various renewable energy sources.

At the end of the Eleventh Five-Year Plan, in the year 2012, about 10 per cent of the total installed power generating capacity in the country is likely to be based on renewables. A comprehensive renewable energy policy is being prepared for accelerated thrust to the development of this sector. The main objectives of the policy are : (i) to meet the minimum rural energy needs, (ii) to provide decentralised/off-grid energy supply for agriculture, industry, commercial and household sectors in rural and urban areas, and (iii) to generate and supply grid quality power.

OIL AND NATURAL GAS

PRODUCTION OF CRUDE OIL AND NATURAL GAS

Oil and Natural Gas Corporation (ONGC) and Oil India Limited (OIL), the

two national oil companies, and a few private and joint venture companies are engaged in exploration and production of crude oil and natural gas in the country. Crude oil production in the country during the year 2000-01 was 32.426 MMT against the target of 32.464 MMT. Production of natural gas in 2000-01 was about 29.48 billion cubic meters (BCM) as compared to 28.446 BCM in 1999-2000.

The main reasons for almost stagnating crude oil production during the last few years are: lack of major discoveries, major producing fields including Mumbai High becoming old and in natural declining phase, environmental constraints in the operating conditions in the North-East, and power shortage in the States like Assam and Gujarat.

EXPLORATION AND PRODUCTION OF OIL AND GAS

Several measures have been taken to accelerate exploration and enhance production of oil and gas. These *inter-alia* include, accelerating the pace of exploration in the country through New Exploration Licensing Policy (NELP), increasing production and recovery factor from the producing fields by using improved oil recovery (IOR) and enhanced oil recovery (EOR) schemes and acquiring equity oil and gas from abroad.

INDIA HYDROCARBON VISION 2025

Various measures undertaken/initiated to accelerate exploration and increase production of oil and gas are aimed towards achieving the broad exploration and Production (E&P) milestones indicated in India Hydrocarbon Vision 2025 which, *inter-alia* include, maximisation of exploration and exploitation efforts in producing basins, spreading exploration into non-producing/ frontier basins, appraising of the sedimentary basins of the country within a time frame, optimising recovery from all the discovered/ future fields, acquiring acreages abroad for exploration as well as production and support R&D environment.

INITIATIVES IN EXPLORATION ACTIVITIES IN THE INDIAN ACREAGES

In order to accelerate the exploration activities in the country, Government in the recent past, had introduced the New Exploration Licensing Policy (NELP). The two rounds of NELP, *i.e.*, NELP-I and II announced in 1999 and 2000, have resulted in signing of production sharing contracts for 47 blocks - eight onland, 24 shallow offshore and 15 deep offshore blocks. Blocks in the deep-water areas were offered for bidding for the first time in NELP-I. NELP blocks also include acreages in petroliferous basins of Assam, Gujarat, Rajasthan, Mumbai offshore, Krishna-Godavari offshore and Cauvery offshore. Works in the NELP-I blocks, PSCs for majority of which were signed in April 2000 have already been started. Initial works in some of these blocks have started showing positive results in the form of making new discoveries of oil and gas in Block KG-DWN/98/2 within one year. PSCs for the NELP-II blocks were signed on 17 July 2001 in an unprecedented shore span of three-and-half-months time from the bid closing date. With the time bound implementation of works in all the 47 contracted NELP blocks, a total sedimentary area of about 0.5 million sq km shall come under active E&P activities. The estimated investment for the committed first phase of exploratory work programme in these blocks is about

US\$ 535 million. Preparatory work for the next round of NELP, *i.e.*, NELP-III is in progress, which is expected to be announced during 2001-02.

INITIATIVES FOR OPTIMISING PRODUCTION FROM EXISTING FIELDS

Major efforts for production optimisation include implementation of IOR and EOR schemes by ONGC in their major ageing fields including Mumbai High North (MHN) and Mumbai High South (MHS). Of the 19 such schemes identified for the purpose by ONGC, 11 schemes including redevelopment of MHN have already been approved and are under different stages of implementation while the approval of MHS redevelopment is on the anvil. The redevelopment plan of MHN was launched in January 2001.

Further, PSCs for nine discovered small sized fields have been signed in February 2001 with various private parties, Indian and foreign, for their expeditious development.

COAL BED METHANE EXPLORATION

In April 2001, the Government had announced the first round of international bidding for seven Coal Bed Methane (CBM) blocks in the country. Bids for six blocks were received on 31 August 2001. Evaluation and finalisation of bids for CBM-I blocks have been taken up in a time-bound manner for awarding the blocks and this may mark the beginning of a concerted effort for exploration and development of an alternate source of energy.

EQUITY OIL FROM ABROAD

In order to supplement domestic availability of oil and gas with a view to provide adequate/stable, assured and cost effective hydrocarbon energy to the Indian economy, ONGC Videsh Limited (OVL) has signed a long term agreement with M/s Rosneft in February 2001 for 20 per cent participating interest in the Sakhalin field of Russia. Additionally, OVL has 45 per cent participating interest in a gas project in Vietnam acquired in part and the gas production from the project is expected to commence from 2002-03.

IMPORT OF CRUDE OIL AND PETROLEUM PRODUCTS

The gross import of crude oil and petroleum products (including imports by private and parallel marketers) during the year 2000-01 was 78.337 MMT valued at Rs 71,604 crore, whereas the net import of crude oil and petroleum products (excluding exports by private parties) during the same year remained 77.306 MMT valued at Rs 70,442.17 crore.

NATURAL GAS

Production of Natural Gas in 2000-01 was 29.477 billion cubic meters (BCM) as compared to 28.445 BCM in 1999-2000. The supply of natural gas in 2000-01 was 24.069 BCM as compared to 23.236 BCM in 1999-2000. The balance recoverable reserves as on 1 April 2001 were 638 BCM.

REFINING

India has witnessed a spectacular growth in refining sector in the recent past. The refining capacity has almost now doubled from 62.24 million metric

tonnes per annum (MMTPA) at the beginning of the Ninth Plan. Today there are 17 refineries in the country, 15 in public sector, one in joint sector and one in private sector with an installed refining capacity of 112.54 MMTPA as on 1 April 2001. Out of the 15 PSU refineries, seven are owned by Indian Oil Corporation Limited (IOCL), two by Chennai Petroleum Corporation Limited (CPCL) and one by Bongaigaon Refineries Petrochemicals Limited (BRPL) (subsidiaries of IOC). Bharat Petroleum Corporation Limited and its subsidiaries Kochi Refinery Limited (KRL) and Numaligarh Refinery Limited (NRL) own refinery each. Two refineries are owned by Hindustan Petroleum Corporation Limited (HPCL). One refinery in joint sector is Mangalore Refinery and Petrochemicals Limited (MRPL) with 9.69 MMTPA. The private sector refinery of Reliance Petroleum Limited (RPL) was commissioned with an installed capacity of 27 MMTPA.

To encourage the speedy implementation of additional refining capacity in the country, petroleum sector has been delicensed from June 1998 and phased dismantling of APM has been started with effect from April 1998.

LPG MARKETING BY PSUs

There were 6,477 LPG distributorships of oil marketing companies in the country as on 1 April 2001 catering to the demand of about 579 lakh LPG customers. The Government has fixed a target of releasing 1.3 crore LPG connections throughout the country during the calendar year 2001. The LPG distribution network is being expanded through setting up of additional 2,952 new distributorships for which selection process has been initiated. Out of 2,952 new distributorships, more than 1,200 are exclusively rural distributorships.

PARALLEL MARKETING OF LPG

In February 1993, the Government introduced the parallel marketing of LPG and kerosene by parallel marketeers in order to increase the availability of these products. Parallel marketeers are free to import and sell these products at market determined prices with their own distribution network after obtaining the valid rating certificate issued by the notified agencies. Cumulatively up to 31 March 2001, 114 parties have imported about 6,132.4 TMT of SKO and 24 parties have imported about 914.5 TMT of LPG.

GAS AUTHORITY OF INDIA LIMITED

Gas Authority of India Limited (GAIL) was incorporated in 1984 for handling post-exploration activities relating to transportation, processing, distribution and marketing of natural gas. The company was assigned the priority task of setting up the cross-country HBJ pipeline. Presently GAIL is the largest company in India for marketing of natural gas. It operates over 4,200 km of pipelines in the country and supplies gas to power plants for generation of about 5,000 MW of power and to the fertilizer sector for production of over 10 MMTPA of urea. It supplies about 62 MMSCMD of gas to about 500 industrial units located in different parts of the country.

GAIL is operating seven LPG recovery plants at Vijapur (Phase I&II) in

Madhya Pradesh, Vaghodia and Gandhar in Gujarat, Lakwa in Assam, Usar in Maharashtra and Auraiya in U.P. The total installed capacity of these LPG recovery plants is 11,68,844 TPA. GAIL has also set up a world class petrochemical complex with polyethylene production of 2,60,000 TPA at Pata in U.P. GAIL has formed two joint venture companies, namely, Mahanagar Gas Limited with M/s British Gas, U.K. and Indraprastha Gas Limited with M/s Bharat Petroleum Corporation Limited for implementation of city gas distribution projects in Mumbai and Delhi respectively. The company has commissioned 1,246 km long LPG pipeline project to transport LPG from Kandla/Jamnagar in Gujarat to Loni in U.P. via Delhi. The company is executing a 600 km long pipeline from Vizag to Secunderabad involving an estimated expenditure of Rs 502 crore. This project is expected to be completed within 36 months of its approval. The company also proposes to lay another 710 km long LPG pipeline from Mangalore to Coimbatore via Mysore involving a capital expenditure of Rs 625 crore.

The company has also entered into the telecom sector for leasing bandwidth along the company's fibre optic network so as to provide a nationwide integrated communication grid for telecom operators. In this direction, GAIL has already completed the Delhi-Vijaipur sector and has finalised the Service Level Agreement. The Delhi-Jaipur link has also been commissioned and Delhi-Rajkot sector shall be operational by mid-September 2001. GAIL has participated with ONGC and Gazprom in the NELP I & II bids and two blocks in the Bengal and Orissa offshores under NELP-I and six blocks under NELP-II have been awarded to its consortia. GAIL has also evinced interest in gas based power projects and has acquired 12 per cent equity in the 156 MW Gujarat State Energy Generation Limited Power Project.

ENGINEERS INDIA LIMITED

Engineers India Limited (EIL), a public sector undertaking was set up in 1965. It is the leading design and engineering company in the field of petroleum refineries, petrochemicals, oil and gas processing, offshore structures and platforms, fertilizers and metallurgy. The services provided by EIL include design, engineering, procurement, construction management, commissioning assistance and project management besides specialist services in the areas of environmental engineering, heat and mass transfer equipment, information technology, material and maintenance, risk analysis, energy conservation and advance control and optimisation. It also undertakes lumpsum turnkey projects in its fields of operation. It has to its credit over 4,000 assignments including 275 major projects. EIL has exported its services to several countries including Algeria, Bahrain, Iran, Iraq, Korea, Kuwait, Malaysia, Norway, Qatar, Saudi Arabia, Sri Lanka, U.A.E. and Vietnam. Engineers India Limited has been a profit making company all along. EIL is now diversifying into several areas including highways & bridges, airports, mass rapid transport systems, ports & terminals, power projects, non-conventional/renewable energy sources, buildings and related works. The (unaudited) turnover of EIL for 2000-01 was Rs 787.3 crore. The company's turnover has grown roughly seven fold in the last ten years.

PUBLIC SECTOR OIL COMPANIES

Four major public sector oil companies, namely, Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, Hindustan Petroleum Corporation Limited and IBP Company Limited, are doing the marketing of petroleum products in the country. As on 1 April 2001, there were 18,239 MS/HSD retail outlets, 6,409 kerosene/light diesel oil dealers and 6,477 LPG distributors to make available MS, HSD, LDO, Kerosene and LPG to the consumers across the country. Besides the country's retail network, the requirement of petroleum products of the industrial units are also met by the public sector oil companies through direct supplies to them.

INDIAN OIL CORPORATION

The Indian Oil Corporation (IOC) was set up in September 1964 by amalgamating Indian Refinery Limited with Indian Oil Company Limited. The Corporation has four divisions, namely, the Marketing Division with headquarters at Mumbai, the Refinery Division with headquarters at New Delhi, the Pipeline Division with headquarters at Noida (UP) and Assam Oil Division with headquarters at Digboi. The Refinery and Pipeline Division function as bifurcated divisions. IOC has a Research and Development Centre at Faridabad. The Centre provides technical services to customers and is engaged in development of sophisticated lubricating oils. It is actively working on possibilities of production and utilisation of viable substitute fuels. IOC also has wholly-owned subsidiary called Indian Oil Blending Limited (IOBL) which is engaged in blending lubricants.

BHARAT PETROLEUM CORPORATION LIMITED

Following the Government's acquisition of two Burmah-Shell companies in January 1976, the name of Burmah-Shell Refineries Limited was changed to Bharat Refineries Limited from 12 February 1976. Being an integrated refining and marketing company, the name of the company was changed to Bharat Petroleum Corporation Limited (BPCL) from 1 August 1977. The company is engaged in processing of crude and marketing of petroleum products. The company has also diversified into the manufacture and marketing of petrochemical feed stock.

The Government of India disinvested part of its shareholding of 33.8 per cent by selling of BPCL shares in favour of financial institutions/banks, mutual funds and BPCL employees during 1992 to 1994 and the present shareholding of the Government of India in BPCL is reduced to 66.20 per cent. During the year 2000-01, BPCL has acquired majority stakes in Kochi Refineries Limited (KRL) and Numaligarh Refinery Limited (NRL). With these acquisitions, KRL and NRL have become subsidiaries of BPCL.

HINDUSTAN PETROLEUM CORPORATION LIMITED

The Hindustan Petroleum Corporation Limited (HPCL) was set up on 15 July 1974 by acquiring assets in India of Esso Eastern Inc., USA and became a wholly government-owned company. On 21 December 1976, the Government acquired Caltex Oil Refining (India) and merged it with HPCL. HPCL is a

mega public sector undertaking and is the second largest integrated oil company in India with *Nav Ratna* status. The main activities of HPCL are refining of crude oil, manufacturing petroleum products, lubricating base oil, manufacturing and blending of lubricants, greases, and marketing of petroleum products all over the country.

IBP COMPANY LIMITED

IBP Company Limited which became a subsidiary of IOC in 1970 turned into an independent Government company in 1972. IBP Company Limited has a controlling stake of 61.8 per cent in its subsidiary Balmer Lawrie and Company Limited. IBP Company Limited has three business groups: Business Group (Petroleum), Business Group (Chemicals) and Business Group (Engineering). Business Group (Petroleum) is engaged in storage, distribution and marketing of MS, HSD, LDO, FO/LSHF and blending/marketing of automotive lubes and greases and industrial lubes. Business Group (Chemicals) is engaged in the manufacture and marketing of slurry/emulsion, explosives-cartridge and site mixed detonating fuse and cast boosters, etc. Business Group (Engineering) is engaged in the manufacturing and marketing of cryo-vessels of international standards for industrial and biological applications. The Company has four joint-venture companies, namely, Numaligarh Refinery Limited, IBP Caltex Limited, Indian Oiltanking Limited and Petronet India Limited. IBP has also made an entry into the business of marketing of Liquified Petroleum Gas (LPG) in bulk. The Company has also started retail marketing of LPG in eight States, i.e., Rajasthan, Haryana, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal and Andhra Pradesh.

As per recommendations of Sen Gupta Committee and report of Disinvestment Commission, the Government has decided to retain 26 per cent of its equity in IBP and the balance to be disinvested to a strategic partner.

CONSERVATION OF PETROLEUM PRODUCTS AND ENVIRONMENTAL PROTECTION

Despite the discovery of new sources of non-conventional energy, petroleum remains the primary energy source in India. Consumption of petroleum products increased at a very steep rate from 3.5 MMT in 1950-51 to 100 MMT in 2000-01 and it is further expected to reach 105 MMT in 2001-02. Our present indigenous production is only 32 MMT, which is about 31 per cent of our annual requirement. Therefore, the Government attaches high priority to minimising the gap between indigenous production and consumption of petroleum products by consistently focusing on the conservation of petroleum products to reduce the heavy foreign exchange outflow.

A number of studies have been initiated to evaluate the effectiveness of the alternative fuels for automotive use. These have received fresh impetus through the Supreme Court directives since July 1998. Efforts to adopt Compressed Natural Gas (CNG) for public transportation system in Delhi is in full swing and the expansion of necessary CNG infrastructure network is being undertaken by Indraprastha Gas Limited and Mumbai Gas Limited in

Delhi and Mumbai respectively. CNG is also being dispensed at Vadodara, Surat and Ankleshwar in Gujarat.

In direction of managing the demand side of petroleum product, the Ministry has taken a bold step towards inter-fuel substitution by setting up three pilot projects in Maharashtra and UP for examining the use of 5 per cent ethanol-mix petrol. This will not only reduce the demand for petrol but also reduce vehicular emissions. Further, the Government has also set up a task force to evolve new standards of blending of ethanol with MS from 5 per cent to 10 per cent and also to study the technical, operational, environmental, logistic aspects of blending of ethanol with diesel (HSD). In addition, pilot projects to consider other alternative fuels like DME, etc., are also on, while R&D efforts are continuing in related areas.

In pursuance of the need for pollution abatement, the Ministry of Petroleum and Natural Gas has taken a number of steps like introduction of improved quality fuels like lead-free petrol, low benzene petrol, low/ultra low sulphur diesel, pre-mixed 2T oil-cum-petrol. Currently, metros like Delhi and Mumbai are being supplied petrol with 0.05 per cent sulphur and 1 per cent benzene, which would be extended to other metros in the near future. Ultra low sulphur high speed diesel (Bharat stage-II) are being supplied in the NCR of Delhi and Mumbai. This quality of ultra low sulphur diesel is being made available phase-wise to metros, major towns and to the entire country by the year 2005.

The Petroleum Conservation Research Association (PCRA) has been making efforts to make people aware of the need, importance and benefits of oil conservation. It undertakes specific sectoral activities to identify the area of oil and gas wastage and also suggests ways and means for corrective action.

20 Industry

INDIA started her quest for industrial development after independence in 1947. The Industrial Policy Resolution of 1948 marked the beginning of the evolution of the Indian Industrial Policy. The Resolution not only defined the broad contours of the policy; it delineated the role of the State in industrial development both as an entrepreneur and as an authority. Successive policy resolutions also reiterated this basic tilt in favour of the public sector. The Industrial Policy Resolution of 1956 gave the public sector strategic role in the economy. It categorised industries which would be the exclusive responsibility of the State or would progressively come under State control and others. Earmarking the pre-eminent position of the public sector, it envisaged private sector co-existing with the State and thus attempted to give the policy framework flexibility.

The Industrial Policy initiatives undertaken by the Government since July 1991 have been designed to build on the past industrial achievements and to accelerate the process of making Indian industry internationally competitive. It recognises the strength and maturity of the industry and attempts to provide the competitive stimulus for higher growth. The thrust of these initiatives has been to increase the domestic and external competition through extensive application of market mechanisms and facilitating forging of dynamic relationships with foreign investors and suppliers of technology. The process of reform has been continuous.

STRUCTURAL REFORMS

INDUSTRIAL LICENSING POLICY

With the introduction of the New Industrial Policy (NIP) in 1991, a substantial programme of deregulation has been undertaken. Industrial licensing has been abolished for all items except for a short list of six industries related to security, strategic or environmental concerns. These are: (i) distillation and brewing of alcoholic drinks; (ii) cigars and cigarettes of tobacco and manufactured tobacco substitutes; (iii) electronic, aerospace and defence equipment: all types; (iv) industrial explosives including detonating fuses, safety fuses, gun powder, nitrocellulose and matches; (v) hazardous chemicals; and (vi) drugs and pharmaceuticals (according to the modified Drug Policy 1994, as amended).

The system of Phased Manufacturing Programme, which was designed to enforce progressively greater degree of local content, has been abolished. Industrial location is discouraged only in large cities because of environmental reasons. According to the NIP, an industrial licence is required under the industries (Development and Regulation) Act, 1951 in the following cases; (i) when the project involves manufacture of an item which is on the list of industries under compulsory licensing, or (ii) the project attracts locational

restriction applicable to large cities with population more than 10 lakh (according to 1991 census), or (iii) when an item reserved for small scale sector is intended to be manufactured by an undertaking other than small scale industrial undertaking. In respect of projects not covered under licensing as aforesaid, the only requirement would be that the industrial undertaking shall file a memorandum in the prescribed form with the Secretariat for Industrial Assistance (SIA) in the Department of Industrial Policy and Promotion.

A significant number of industries had earlier been reserved for public sector. Recently, a decision has been taken to open defence industry sector to private sector with foreign direct investment permissible up to 26 per cent. Now, the areas reserved for the public sector would be: (a) atomic energy; (b) the substances specified in the schedule to the notification of the Government of India in the Department of Atomic Energy No. S.O. 212(E), dated the 15 March 1995, and (c) railway transport. Even in these areas, private sector participation can be invited on a discretionary basis.

The Government continues to provide protection to the small scale sector, *inter-alia*, through the policy of reserving items for exclusive manufacture in the small-scale sector. Industrial undertakings other than the small-scale industrial undertakings engaged in the manufacture of items reserved for exclusive manufacture in the small-scale sector are required to obtain an industrial licence and undertake an export obligation of 50 per cent of the annual production. However, the condition of licensing is not applicable to such industrial undertakings operating under 100 per cent Export Oriented Undertakings Scheme, the Export Processing Zone and the Special Economic Zone Schemes. Industrial undertakings with investment in plant and machinery up to Rs one crore qualify for the status as small-scale or ancillary industrial undertaking with effect from 24 December 1999. The investment limit for tiny units is Rs 25 lakh.

FOREIGN DIRECT INVESTMENT

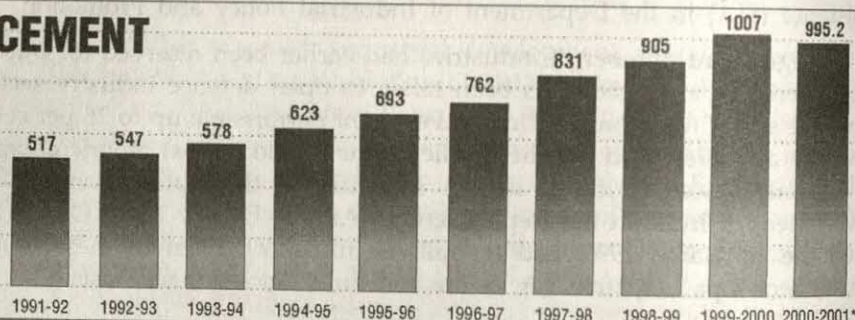
Foreign Direct Investment (FDI) is seen as a means to support domestic investment for achieving a higher level of economic development. FDI benefits domestic industry as well as the Indian consumer by providing opportunities for technological upgradation, access to global managerial skills and practices, optimal utilisation of human and natural resources, making Indian industry internationally competitive, opening up export markets, providing backward and forward linkages and access to international quality goods and services.

MAJOR INITIATIVES

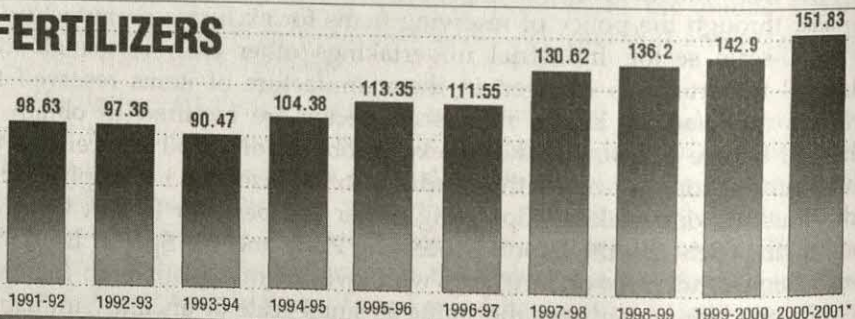
In pursuance of Government's commitment to further facilitate Indian industry to engage unhindered in various activities, the Government has permitted, except for a negative list, access to the automatic route for Foreign Direct Investment. The automatic route means simply that foreign investors need to inform the Reserve Bank of India within 30 days of bringing in their investment, and again within 30 days of issuing any shares. The negative list includes: (i) All proposals that require an industrial licence because the activity is licensable under the Industries (Development and Regulation) Act, 1951, cases where foreign investment is more than 24 per cent in the equity capital

PRODUCTION OF SELECTED INDUSTRIES (LAKH TONNES)

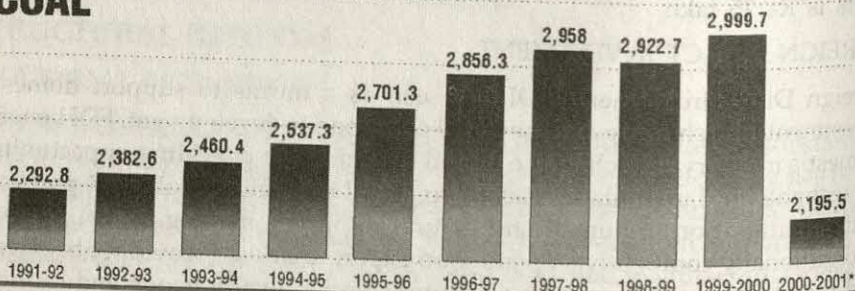
CEMENT



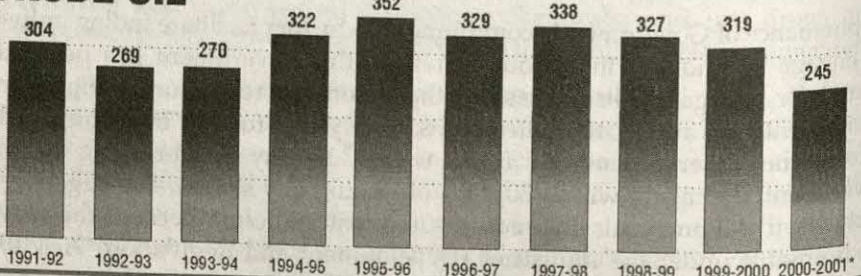
FERTILIZERS



COAL



CRUDE OIL



of units manufacturing items reserved for small scale industries, and all activities that require an industrial licence in terms of the locational policy notified by Government under the Industrial Policy of 1991; (ii) All proposals in which the foreign collaborator has a previous venture/tie up in India; (iii) All proposals relating to acquisition of shares in an existing Indian company in favour of a foreign/Non-Resident Indian (NRI)/Overseas Corporate Body (OCB) investor; (iv) All proposals falling outside notified sectoral policy/caps or under sectors in which FDI is not permitted and/or whenever any investor chooses to make an application to the Foreign Investment Promotion Board (FIPB) and not to avail of the automatic route.

Non-Banking Financial Companies (NBFCs) may hold foreign equity up to 100 per cent if these are holding companies. The minimum capitalisation norms for fund-based NBFCs are: (i) for FDI up to 51 per cent - US \$ 0.5 million to be brought upfront; (ii) for FDI above 51 per cent and up to 75 per cent - US \$ 5 million to be brought upfront; and (iii) for FDI above 75 per cent and up to 100 per cent - US \$ 50 million out of which US \$ 7.5 million to be brought upfront and the balance in 24 months.

For non-fund based activities, minimum capitalisation norm of US \$ 0.5 million is applicable in respect of all permitted non-fund based NBFCs with foreign investment. Foreign investors can set up 100 per cent operating subsidiaries (without any restriction on number of subsidiaries) without the condition to disinvest a minimum of 25 per cent of its equity to Indian entities, subject to bringing in US \$ 50 million, out of which US \$ 7.5 million to be brought upfront and the balance in 24 months. Joint venture operating NBFCs that have 75 per cent or less than 75 per cent foreign investment will also be allowed to set up subsidiaries for undertaking other NBFCs activities, subject to the subsidiaries also complying with the applicable minimum capital inflow (all NBFC activities have been placed under automatic route subject to RBI guidelines). FDI up to 49 per cent from all sources is permitted in the private banking sector on the automatic route subject to conformity with RBI guidelines. FDI up to 26 per cent is eligible under automatic route in the Insurance sector, as prescribed in the Insurance Act, 1999, subject to their obtaining licence from Insurance Regulatory and Development Authority.

In the process of liberalisation, the following FDI policy changes have been made: (i) 100 per cent FDI permitted for B to B e-commerce; (ii) condition of Dividend Balancing on 22 consumer items removed forthwith; (iii) removal of cap on foreign investment in the Power sector and FDI in this sector is under automatic route; and (iv) 100 per cent FDI permitted in oil-refining on automatic route.

Automatic route is available to proposals in the Information Technology sector, even when the applicant company has a previous joint venture or technology transfer agreement in the same field. Automatic Route of FDI up to 100 per cent is allowed in all manufacturing activities in Special Economic Zones (SEZs), except for the following activities: (i) arms and ammunition, explosives and allied items of defence equipment, defence aircraft and warships; (ii) atomic substances; (iii) narcotics and psychotropic substances

and hazardous chemicals; (iv) distillation and brewing of alcoholic drinks; and (v) cigarettes/cigars and manufactured tobacco substitutes.

FDI up to 100 per cent is allowed with some conditions for the following activities in Telecom sector: (i) ISPs not providing gateways (both for satellite and submarine cables); (ii) Infrastructure Providers providing dark fiber (IP Category I); (iii) Electronic Mail; and (iv) Voice Mail. FDI up to 74 per cent permitted for the following telecom services subject to licensing and security requirements (proposals with FDI beyond 49 per cent shall require prior Government approval): (i) Internet services providers with gateways; (ii) Radio paging; and (iii) End-to-end bandwidth.

FDI up to 100 per cent is permitted in airports, with FDI above 74 per cent requiring prior approval of the Government. FDI up to 100 per cent is permitted with prior approval of the Government in courier services subject to existing laws and exclusion of activities relating to distribution of letters. FDI up to 100 per cent is permitted with prior approval of the Government for development of integrated township. Development of land and providing allied infrastructure will form an integral part of township's development. FDI up to 100 per cent is permitted on the automatic route for Mass Rapid Transport Systems in all metropolitan cities, including associated commercial development of real estate.

FDI up to 100 per cent in drugs and pharmaceuticals placed on the automatic route. The defence industry sector is opened up to 100 per cent for Indian private sector participation with FDI permitted up to 26 per cent both subject to licensing. FDI up to 100 per cent is permitted on the automatic route in hotel and tourism sector. Payment of royalty up to two per cent on exports and one per cent on domestic sales is allowed under automatic route on use of trademarks and brand name of the foreign collaborator without technology transfer. Payment of royalty up to eight per cent on exports and five per cent on domestic sales by wholly-owned subsidiaries to offshore parent companies is allowed under the automatic route without any restriction on the duration of royalty payments. Offshore Venture Capital Funds/Companies are allowed to invest in domestic venture capital undertakings as well as other companies through the automatic route, subject only to SEBI regulations and sector specific caps on FDI. Existing companies with FDI are eligible for automatic route to undertake additional activities covered under automatic route. NRI investment in foreign exchange is made fully repatriable whereas investments made in Indian rupees through rupee account shall remain non-repatriable. International financial institutions like ADB, IFC, CDC, DEG, etc., are allowed to invest in domestic companies through the automatic route, subject to SEBI/RBI guidelines and sector-specific caps on FDI. Industrial licences/Letter(s) of Intent issued by the Secretariat for Industrial Assistance (SIA) in the past carrying the condition of export obligation have been exempted from the operation of this condition for items which stand dereserved by an appropriate notification.

FOREIGN INVESTMENT IMPLEMENTATION AUTHORITY

The Government has set up the Foreign Investment Implementation Authority (FIIA) in the Ministry of Commerce and Industry. The FIIA will facilitate quick translation of Foreign Direct Investment (FDI) approvals into implementation, provide a pro-active one-stop-after-care service to foreign investors by helping them obtain necessary approvals, sort out operational problems and meet with various Government agencies to find solutions to problems and maximising opportunities through a partnership approach. The FIIA may co-opt other Secretaries to the Government of India, Chief Commissioner (NRI), top functionaries of financial institutions and professional experts from industry and commerce, as and when necessary. The Secretariat for Industrial Assistance (SIA) in the Department of Industrial Policy and Promotion functions as the Secretariat of the FIIA.

FOREIGN DIRECT INVESTMENT—APPROVAL AND INFLOW

(Rs in crore/US \$ in million)

Year (January- December)	No. of FDI Approvals	FDI approved	FDI Inflow	Realisation rate of FDI approvals (per cent)
1991	289	Rs 534.11 US \$ 218.27	Rs 351.43 US \$ 143.62	65.80
1992	692	Rs 3,887.54 US \$ 1,485.49	Rs 675.18 US \$ 258	17.37
1993	785	Rs 8,859.33 US \$ 2,890.48	Rs 1,786.71 US \$ 582.94	20.17
1994	1,062	Rs 14,187.19 US \$ 4,522.53	Rs 3,289.28 US \$ 1,048.54	23.18
1995	1,355	Rs 32,071.72 US \$ 10,213.92	Rs 6,820.03 US \$ 2,171.98	21.26
1996	1,559	Rs 36,146.81 US \$ 10,510.85	Rs 10,389.20 US \$ 3,020.99	28.74
1997	1,665	Rs 54,891.35 US \$ 15,302.86	Rs 16,425.33 US \$ 4,579.13	29.92
1998	1,191	Rs 30,813.50 US \$ 7,800.89	Rs 13,339.84 US \$ 3,377.17	43.29
1999	1,726	Rs 28,366.53 US \$ 6,753.94	Rs 16,867.79 US \$ 4,016.10	59.46
2000	1,726	Rs 37,039.45 US \$ 8,613.83	Rs 19,341.74 US \$ 4,498.07	52.22
2001 (Jan-April)	640	Rs 11,909.76 US \$ 2,646.61	Rs 5,595.61 US \$ 1,243.50	46.98
Total	12,690	Rs 2,58,707.29 US \$ 70,959.67	Rs 94,882.14 US \$ 24,940.04	36.68

CURRENT INDUSTRIAL PRODUCTION

As per the Quick Estimate of the Index of Industrial Production, the overall growth of Industrial Production during 2000-2001 was five per cent as against 6.7 per cent in 1999-2000. During 2000-2001, mining and quarrying, manufacturing and electricity sectors recorded growth rates of 3.6 per cent, 5.3 per cent and 4 per cent respectively. Overall growth rate of consumer goods sector increased to eight per cent from 5.7 per cent recorded in 1999-2000. Consumer-non-durables have recorded a growth rate of 6.1 per cent in 2000-01 as against 3.2 per cent in 1999-2000. Consumer-durable goods have recorded a growth rate of 13.9 per cent over 1999-2000. During 2000-01, Intermediate goods, Capital goods and Basic goods have recorded growth rates of 4.6 per cent, 1.7 per cent and 3.8 per cent respectively.

Within the manufacturing sector, 14 categories recorded positive growth of which four groups have achieved double digit growth rate. These are food products, leather and fur products, rubber, plastic, petroleum and coal products, and metal products and parts, except machinery and equipment. Three industry groups, namely, paper and paper products and printing, publishing and allied industries, non-metallic mineral products and transport equipment and parts have shown negative growth.

While the overall industrial growth was five per cent, six core infrastructure sectors achieved an overall growth of 5.3 per cent in 2000-01.

The performance of six infrastructure industries is given below :

Year-wise Growth Rates							
S.No.	Industry	Weight	1996-97	1997-98	1998-99	1999-2000	2000-01
1	Electricity	10.1690	3.8	6.6	6.6	7.2	4.0
2	Coal	3.2216	5.7	3.6	-2.1	3.1	3.3
3	Steel	5.1278	5.8	6.3	1.3	14.9	7.0
4	Crude Petroleum	4.1721	-4.7	2.9	-3.4	-2.4	1.6
5	Petroleum Refinery Products	2.0021	7.0	3.7	5.2	25.4	20.3
6	Cement	1.9891	9.6	9.1	5.7	14.3	-0.5
Overall		26.6817	3.7	5.7	2.8	9.1	5.3

SECTORAL POLICIES

Power : Private sector participation is permitted. Foreign equity up to 100 per cent is permitted under the automatic route for the projects relating to electricity generation, transmission and distribution. The categories which

would qualify for such automatic route are hydro-electric power plants, coal/lignite based thermal power plants and oil/gas based thermal power plants. Relaxation of 40 per cent cap for debt exposure by Indian Financial Institutions (IFIs) has been provided. Legislation on energy conservation and setting up of Bureau of Energy Efficiency has been introduced. To facilitate setting up of large size thermal power plants in the country, revised mega power policy has been introduced. Fourteen states have set up State Electricity Regulatory Commissions (SERCs). Power Trading Corporation (PTC) has been incorporated for the purpose of buying power from mega power projects under long-term Power Purchase Agreements (PPAs) and selling the power to beneficiary States also under long-term PPAs. A Crisis Resolution Group (CRG) has been set up in the Ministry of Power. Transmission activity has been given an independent status and the concept of Central and State transmission utilities has been introduced. The limit of capital expenditure of the schemes beyond which concurrence of Central Electricity Authority is required, has been enhanced.

Telecom: Private sector participation is permitted. No foreign equity cap is applicable to manufacturing activities. Foreign equity up to 49 per cent is permitted for investment in Basic, Cellular, Mobile, Value Added Services and Global Mobile Personal Communications by satellite on an automatic basis. ISPs with gateways, radio-paging and end-to-end bandwidth are permitted. FDI up to 74 per cent with FDI up to 49 per cent under automatic route. FDI up to 100 per cent is permitted in ISPs (not providing gateways), Infrastructure Providers, Electronic Mail and Voice Mail sectors. Concessional import duties for import of equipment by telecom service projects (including cellular, basic, internet, etc.) are available. Amendment of the Telecom Regulatory Authority of India (TRAI) Act in year 2000 has paved the way for reconstituting of TRAI and creation of the Telecom Dispute Settlement and Appellate Tribunal (TDSAT).

Roads: Private sector participation including foreign investment participation up to 100 per cent is permitted on automatic route for the construction and maintenance of roads, highways, vehicular bridges, toll roads and vehicular tunnel. A 10-year tax-holiday for roads qualifying as infrastructure facility is available within a block of 20 years. The National Highways Authority of India (NHAI) is permitted to participate in equity in Build Own Transfer (BOT) projects up to 30 per cent.

Ports: Guidelines for foreign investment in the ports sector have been further liberalised. Automatic route is available for foreign equity participation up to 100 per cent in construction and maintenance of ports and harbours. The following areas have been identified for participation/investment by the private sector: (a) Leasing out of existing assets of the port; (b) Construction/creation of additional assets; (c) Leasing of equipment for port handling and leasing of floating crafts from the private sector; (d) Pilotage; and (e) Captive facilities for port-based industries. An independent Tariff Authority for Major Ports (TAMP) set up to fix and revise various port charges to be collected by private providers of port facilities has started functioning from April 1997.

Civil Aviation : Private sector is allowed to operate scheduled airlines in the domestic sector. In the domestic airlines sector, foreign equity up to 40 per cent is permitted. In case of Non-Resident Indians (NRIs)/Overseas Corporate Bodies (OCB), foreign equity up to 100 per cent is allowed. No direct or indirect equity participation by foreign airlines is allowed. Equity from foreign airlines is not allowed in domestic air-transport services either directly or indirectly. Foreign financial institutions are allowed to hold equity in the domestic air transport sector provided they do not have foreign airlines as their shareholders.

LIGHT ENGINEERING INDUSTRY

The engineering industry is a distinct sector, including ball & roller bearing industry, castings, steel, forgings, process control instruments, steel pipes and tubes, etc. The production in this industry is derived from the demand emanating from the user industry segment. There has been uneven growth of different segments of light engineering industry but overall the industry has performed much better in the liberalised atmosphere.

CEMENT INDUSTRY

Cement is one of the most advanced industries in the country. After the complete decontrol of price and distribution in March 1989 and introduction of other policy reforms, cement industry has made rapid strides both in capacity/production and process technology. As on 30 April 2001 there were 119 large cement plants with an installed capacity of 122.41 million tonnes per annum. Besides there are more than 300 mini-cement plants with an estimated capacity of nine million tonnes per annum. The production during 2000-01 was 99.52 million tonnes. There was a negative growth rate of 0.93 per cent in 2000-01 due to sluggish demand.

India is producing different varieties of cement like Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Blast Furnace Slag Cement (PBFS), Oil Well Cement, White Cement, etc. These varieties of cement are produced strictly under BIS specifications.

The cement industry has kept pace with technological advancement and modernisation. Export of cement was 5.15 million tonnes (provisional) in 2000-01. Improvement in quality of Indian Cement has found its ready market in Bangladesh, Indonesia, Malaysia, Nepal, Middle East countries, Burma, Africa and South East Asian countries.

LEATHER INDUSTRY

Leather industry in India is spread over organised as well as unorganised sector. The small scale, cottage and artisan sectors account for over 75 per cent of the total production. Though traditionally the Indian leather industry has been an exporter of tanned hides and skins, it had in the early seventies itself, set its sights on becoming a major player in the leather products segments. Export performance of the leather sector went up from Rs 3,036 crore during 1991-92 to Rs 6,968 crore in 1999-2000. It was Rs 8,227 crore during April 2000- February 2001.

A UNDP-assisted National Leather Development Programme (Phase-I) extended from 1992 to 1998 aimed at integrated development of leather industry through selected institutions/agencies in the country, was successful in upgrading training systems for design and manufacture of footwear, garments and leather goods. The second phase of UNDP assisted programme, namely, Small Industries Development and Employment Programme in the Leather Sector (SIDE-NLDP) commenced in August 1998. It is being executed by Department of Industrial Policy and Promotion for the development of the leather sector with focus on promoting poverty alleviation and sustained livelihood and building linkages between the organised and unorganised sectors. The UNDP allocation towards the SIDE-NLDP is US \$ 7.15 million for the period September 1998 to March 2002. To supplement the ongoing NLDP/SIDE-NLDP, a new plan scheme, Indian Leather Development Programme (ILDP), has been approved under the Ninth Plan. A scheme providing financial help for tannery modernisation has been launched in January 2000 under the ILDP.

RUBBER GOODS INDUSTRY

Rubber goods manufacturing industry is a delicensed industry. The major rubber goods produced by the industry are tyres and tubes of all kinds, surgical gloves, prophylactics, conveyer and V-belts, hose pipes, sports goods, etc. Many of the rubber goods like cycle tyres and tubes, canvas hoses, rubber washers, etc., are reserved for exclusive manufacture in the small-scale sector. At present the industry has 32 tyre units, 220 medium scale units, over 5,500 small-scale units and an equal number of units in the tiny sector with an annual turn over of over Rs 12,000 crore. It directly employs about 3.5 lakh people. The total export of rubber goods has increased from Rs 313 crore in 1991-92 to approximately Rs 1,409 crore in 1999-2000. Tyres and tubes constitute the most important segment having a turn-over of around Rs 10,000 crore. The export of tyres reached a level Rs 853 crore during 1999-2000.

PAPER INDUSTRY

The paper industry in India is primarily using non-conventional raw material, as the 62 per cent of the market is catered by paper products manufactured from raw material like, agro-waste, agro-residues and recycled paper. The demand is estimated to be around 54.80 lakh tonne in 2005-06. The paper industry which grew at the rate of 7.9 per cent in the year 1995-96 witnessed a slump in the year 1996-97 when the growth rate came down to 3.1 per cent. The Government had completely de-licenced the paper industry from 17 July 1997. The industry reported a growth rate of five per cent in 1998-99 and 13.49 per cent during 1999-2000. However, the growth rate in paper industry has come down to 11.29 per cent during 2000-2001.

At present, there are about 515 paper mills (including mills producing newsprint) in the country with an annual installed capacity of about 51 lakh tonne. The present capacity utilisation in the paper industry is about 60 per cent as 194 paper mills particularly small mills are sick and/or lying closed.

Some incentives have also been provided particularly to those mills which are based on non-conventional raw material. Paper and paperboard manufactured out of more than 75 per cent non-conventional raw material has been exempted from payment of excise duty up to first clearance of 3,500 MT per annum. Imports of paper and paper products was 2.77 lakh tonne while the export was one lakh tonne during 1999-2000. One lakh tonne of paper was exported in 1999-2000 mainly to the neighbouring countries.

NEWSPRINT INDUSTRY

Until 1981, National Newsprint and Paper Mills, now known as NEPA Limited which commenced production in 1955, was the only unit in the country manufacturing newsprint. At present, there are 63 mills with installed capacity of about 11.84 lakh tonne. Production of newsprint was about 6.34 lakh tonne in 2000-2001. To improve production and availability of newsprint, excise duty on newsprint has been removed. Import duty on wood pulp has been lifted. Import of newsprint is decontrolled and is on OGL.

SOAPS AND DETERGENTS

The soaps and detergents industry has developed both in the small-scale sector and organised sector. Detergents and toilet soaps are delicensed. Ninety per cent of the production of laundry soap is in the small-scale sector. Toilet soap is, however, dominated by the large-scale units. Production of laundry soap, toilet soap and synthetic detergents during 1999-2000 has been of the order of 7.5 lakh tonne, 5.3 lakh tonne and 26 lakh tonne respectively.

PUBLIC SECTOR

Public sector has played a pivotal role in the planned economic and industrial development of the country. For the purpose of planning and national accounting, public sector in India includes all activities funded out of Government's budget. Thus, the size of the public sector is, indeed, very large. It includes government departments and its companies whether in the Central or State sector, irrigation and power projects, railways, post and telegraphs, ordnance factories and irrigation and other departmental undertakings, banking, insurance, financial and other services. The focus here is, however, on the Central Public Sector Enterprises (CPSEs) established as Government companies or statutory corporations excluding banking units.

At the time of Independence, India was basically an agrarian economy with a weak industrial base, low level of saving and investment and near absence of infrastructure facilities. There existed considerable inequality in income, low level of employment opportunities and serious imbalances. It was, thus obvious that if the country was to speed up its economic growth and maintain it in the long run at a steady level, a big push was required. As such state's intervention in all the sectors of the economy was inevitable because private sector had neither necessary resources in terms of capital, nor the will to undertake risks involved in large projects with long gestation period.

There has been appreciable growth in the investment in the public sector over the years. In 1951, the investment in five CPSEs was Rs 29 crore. This increased to Rs 2,52,554 crore in 240 enterprises as on 31 March 2000. The contribution of CPSEs during 1999-2000 in country's total production of lignite was 100 per cent, in coal and petroleum about 90 per cent and in non-ferrous metals, viz., primary lead and zinc was about 80 per cent. The internal resources generated by the public sector enterprises during 1999-2000 were Rs 35,891 crore. The PSEs have also been making substantial contribution to augment the resources of Central Government through payment of dividend, interest, corporate taxes, excise duties, etc. During 1999-2000, contribution to the Central exchequer by the PSEs amounted to Rs 56,434 crore.

The public sector enterprises, as model employers, have been incurring expenditure on social overheads like education, medical and cultural facilities, etc. Besides providing direct employment to about two million people as on 31 March 2000, PSUs incurred gross expenditure amounting to Rs 3,524 crore on township maintenance, administration and social overheads.

The performance of CPSEs have improved significantly since 1991-92 and have shown continuous growth. Some of the important financial parameters from 1991-92 to 1999-2000 are given in table 20.1.

TABLE 20.1 : PERFORMANCE OF CENTRAL PUBLIC SECTOR ENTERPRISES

(Rs in crore)							
Year	Turnover/ Operating income	PBIT	Net Profit	Prov. for Tax	Dividend Payment	Contribution to Central Exchequer	Gross Internal Resource Generation.
1991-92	1,33,906	13,675	2,356	1,647	687	19,264	12,943
1992-93	1,47,266	15,957	3,271	1,805	792	21,657	14,792
1993-94	1,58,049	18,556	4,545	2,110	1,028	21,960	16,676
1994-95	1,87,355	22,630	7,187	2,581	1,436	26,036	19,992
1995-96	2,26,919	27,587	9,574	4,047	2,205	28,673	24,198
1996-97	2,60,735	30,915	10,186	5,192	3,097	39,009	25,554
1997-98	2,76,002	37,206	13,582	5,634	4,073	42,289	31,192
1998-99	3,10,179	39,727	13,203	6,499	5,469	46,934	31,302
1999-2000	3,89,310	42,422	14,555	7,706	6,246	56,434	35,891
Growth in 1999-2000 over 1991-92 (per cent)	291	310	618	468	909	293	277

The improvement after liberalisation is not only in absolute amounts but important financial ratios have also improved. The return on investment, i.e., profit before interest and tax to capital employed has also gone up from 11.6 per cent in 1991-92 to 14 per cent in 1999-2000 and dividend payout from 29.2 per cent to 37.5 per cent during the same period. In 1997, the Government had identified 11 Public Sector Enterprises as *Navratnas* and decided to give enhanced powers to the Board of Directors of these PSUs to facilitate their becoming global players. These enterprises are BHEL, BPCL, GAIL, HPCL, IOC, IPCL, MTNL, NTPC, ONGC, SAIL and VSNL. The Boards of these *Navratna* enterprises have been professionalised by induction of non-official part-time professional Directors. These 11 PSUs have been delegated substantial enhanced autonomy and operational freedom which include incurring capital expenditure, entering into joint ventures, effecting organisational restructuring, creation and winding up of posts below Board level, to raise capital from the domestic and international markets, to establish financial joint ventures subject to equity investments with special limits. *Navratna* PSUs have earned a net profit of Rs 13,067 crore during 1999-2000.

The Government have also granted financial and operational autonomy to some of the other profit making enterprises subject to fulfilling certain conditions. The enterprises are categorised as *Miniratnas*. The enterprises which have made profits continuously for last three years and have earned a net profit of Rs 30 crore or more in one of the three years, with positive networth are categorised as *Miniratnas* I. Category II *Miniratnas* should have made profit for the last three years continuously and should have a positive networth. Both these categories of PSEs would enjoy certain autonomy like incurring capital expenditure without Government approval up to Rs 300 crore or equal to their networth whichever is lower (for category I *Miniratna* companies) and up to Rs 150 crore or up to 50 per cent of their networth whichever is lower (for category II *Miniratna* companies). These enterprises can also enter into joint ventures subject to certain conditions, set up subsidiary companies and overseas offices, enter into technology joint ventures, etc. As on 31 March 2001, 46 enterprises have been categorised as *Miniratnas*.

It is constant endeavour of the Government to revive/restructure the PSUs in order to improve the performance, productivity and profitability. However, major emphasis had been on the sick and loss making enterprises, which are capable of being revived. The sick industrial enterprises are referred to the Board of Industrial & Financial Restructuring (BIFR) under the provisions of Sick Industrial Companies (Special Provision) Act, 1985 for formulating appropriate revival/rehabilitation packages. For other loss making enterprises administrative Ministries/Departments in consultation with management workers and other experts/consultants take appropriate measures for restructuring of these units.

The CPSUs are involved in manufacturing of goods and rendering services. The performance of PSUs under these groups during 1998-99 and 1999-2000 is given in table 20.2.

TABLE 20.2 : PERFORMANCE OF MANUFACTURING AND SERVICE GROUPS OF ENTERPRISES

(Rs in crore)

Sl. No.	Particulars	Production Sector		Service Sector		Total	
		1999-2000	1998-99	1999-2000	1998-99	1999-2000	1998-99
1.	No. of Operating Enterprises	157	160	75	75	232	235
2.	Capital Employed	1,97,243.03	1,74,470.12	1,06,168.04	90,622.71	3,03,411.07	2,65,092.83
3.	Net Worth	1,19,575.79	1,13,900.89	41,489.45	34,163.38	1,61,065.24	1,48,064.27
4.	Turnover/Operating Income	3,16,801.81	2,41,635.59	72,508.13	68,543.57	3,89,309.94	3,10,179.16
5.	Cost of Production/ Services	2,86,489.22	2,17,789.42	73,794.16	63,835.15	3,60,283.38	2,81,624.57
6.	Cost of goods sold	2,81,414.93	2,14,513.39	67,326.78	64,080.43	3,48,741.71	2,78,593.82
7.	Value added	86,226.23	78,752.73	37,630.07	34,575.04	1,23,856.30	1,13,327.77
8.	Profit Before Dep. Int & tax (PBDIT)	43,573.76	39,161.12	18,778.28	17,334.01	62,352.04	56,495.13
9.	Depreciation	16,037.04	13,197.41	3,893.36	3,570.55	19,930.40	16,767.96
10.	Profit before Int. & tax (PBIT)	27,536.72	25,963.71	14,884.92	13,763.46	42,421.64	39,727.17
11.	Interest	12,358.80	12,659.06	7,801.38	7,365.63	20,160.18	20,024.69
12.	Profit before Tax (PBT)	15,177.92	13,304.65	7,083.54	6,397.83	22,261.46	19,702.48
13.	Tax Provisions	5,982.78	4,582.12	1,723.68	1,917.35	7,706.46	6,499.47
14.	Net Profit	9,195.14	8,722.53	5,359.86	4,480.48	14,550.00	13,203.01
(a)	Profit of Profit making PSEs	18,641.84	17,058.82	5,972.82	5,449.51	24,614.66	22,508.33
(b)	Loss of Loss Incurring PSEs	9,446.70	8,336.29	612.96	969.03	10,059.66	9,305.32
(c)	No of Profit making PSEs	71	75	54	51	125	126
(d)	No of Loss incurring PSEs	86	84	20	23	106	107
(e)	No. of no profit/ loss PSEs	-	1	1	1	1	2
15.	Dividend	4,716.41	4,196.36	739.07	735.20	5,455.48	4,931.56
16.	Dividend Tax	678.11	457.82	112.30	78.77	790.41	536.59
17.	Retained Profit	3,800.62	4,068.35	4,508.49	3,666.51	8,309.11	7,734.86
18.	Financial Ratio (per cent)						
(a)	Sales to Capital employed	160.61	138.50	68.30	75.64	128.31	117.01

(b)	PBDIT to Capital employed	22.09	22.45	17.69	19.13	20.55	21.33
(c)	PBIT to Capital employed	13.96	14.88	14.02	15.19	13.98	14.99
(d)	PBT to Net worth	12.69	11.68	17.07	18.73	13.82	13.31
(e)	PBDIT to Turnover	13.75	16.21	25.90	25.29	16.02	18.21
(f)	PBIT to Turnover	8.69	10.74	20.53	20.08	10.90	12.81
(g)	PBT to Turnover	4.79	5.51	9.77	9.33	5.72	6.35
(h)	Net Profit to Turnover	2.90	3.61	7.39	6.54	3.74	4.26
(i)	Dividend payout	51.29	48.11	13.79	16.41	37.48	37.35

One of the major initiatives towards the public sector as outlined in the new industrial policy of July 1991 was to bring all public sector enterprises under the system of Memorandum of Understanding (MOU). The system of MOU envisages an arm's length relationship between the PSEs and the administrative Ministries. It gives clear targets to PSEs and ensures operational autonomy to them for achieving targets. The MOU system was started in 1987-88 with four PSEs signing MOUs. It has now gone up to 107 MOUs signed for 2000-2001. During 1999-2000, 49 PSEs were rated as excellent; 29 PSEs as very good; nine PSEs as good; 16 PSEs as fair and three PSEs as poor. The aggregate gross margin of MOU signing PSEs during the year 1999-2000 is about 11 per cent more than the target set for them.

MAJOR INDUSTRIES

TEXTILES

The textile industry's predominant presence in the Indian economy is manifest in its significant contribution to the industrial production, employment generation, and foreign exchange earnings. Currently, it adds about 14 per cent to the industrial production and about four per cent to the GDP. It provides employment to about 35 million persons. Together with allied agriculture sector, it provides employment to over 90 million people. The contribution of this industry to the gross export earnings of the country is over 30 per cent while it adds only 7 to 8 per cent to the gross import bill of the country. It is the only industry, which is self-reliant, from raw material to the highest value added products, *viz.*, garments/made-ups.

COTTON

Cotton accounts for more than 75 per cent of the total fibre consumption in the spinning mills and more than 58 per cent of the total fibre consumption in the textile sector. The production of cotton rose from 30 lakh bales in 1950-51 to an all time high of 177.90 lakh bales (170 kg each) in 1996-1997. There after production declined to 156 lakh bales in 1999-2000. Cotton Advisory Board has estimated cotton production during 2000-2001 at 146 lakh bales. During 2000-2001 the area under cultivation is estimated as 81.22 lakh hectares

Industry

as against 58.91 lakh hectares in 1950-51. The average yield per hectare also rose from 88 kg in 1950-51 to 301 kg in 2000-2001.

JUTE

The jute industry in the country is traditionally export-oriented. It provides sizeable employment in farms and industries. India ranks number one in raw jute and jute goods production and number two in export of jute goods in the world. Jute exports have shown an increase of 5.4 per cent in US \$ terms. The Government on 5 October 2000 has issued orders for enhancing the percentage of mandatory packaging in jute bags for sugar and foodgrains to 100 per cent each and for urea to 20 per cent.

SERICULTURE

India continues to be the second largest producer of silk in the world and has the distinction of producing all the four varieties of silk. Among the varieties of silk produced in 1999-2000, mulberry accounted for 91.7 per cent, eri 6.4 per cent, tasar 1.4 per cent and muga 0.5 per cent of the total raw silk production in the country. Sericulture is an important labour-intensive and agro-based cottage industry, providing gainful occupation to about 64 lakh persons. Total silk export earnings during April-December 2000 was Rs 1,163.84 crore.

HANDLOOMS

The handloom sector provides employment to over 65 lakh persons engaged in weaving and allied activities. The production of handloom fabrics registered more than ten-fold increase from a level of 500 million sq metres in the early fifties to 7,352 million sq metres in 1999-2000. This sector constitutes nearly 19 per cent of the total cloth produced in the country and also contributes substantially to the export earnings. In addition to various on-going schemes and programmes, the Government of India has launched Deen Dayal *Hathkargha Protsahan Yojana* and Ambedkar *Hast Shilp Yojana* and has also set up a National Centre for Textile Design recently.

POWERLOOMS

The decentralised powerloom sector plays a pivotal role in meeting the clothing needs of the country. Production of cloth as well as generation of employment have been rapidly increasing in this sector. The powerloom industry produces a wide variety of cloth, both grey as well as processed with intricate designs. The contribution of powerloom sector to the total cloth production of the country is 59.15 per cent and it contributes significantly to the export earnings of the country.

HANDICRAFTS

The handicrafts sector enjoys a special significance in the country's economy in terms of employment generation as well as earning of foreign exchange through exports. The promotion of handicrafts is the primary responsibility of the State Governments. However, the office of the Development

Commissioner (Handicrafts) has been implementing various developmental schemes at the Central level to supplement the efforts of the States in the handicrafts sector. Exports of handicrafts including hand-knotted carpets were of the order of Rs 8,059.63 crore during 1999-2000 representing an increase of 12.34 per cent over the previous year. The export of handicrafts during the period April-December 2000 had been Rs 7,206.79 crore.

MAN-MADE FIBRE AND FILAMENT YARN INDUSTRY

The industry comprises fibre and filament yarn manufacturing units of cellulosic origin. This industry has a vital role to play in the textile industry in the sense that above 39 per cent of the raw material consumed is manufactured by the man-made fibre/yarn industry. The sharp increase in production of polyester fibre and yarn during the five years has made India emerge as the fifth largest producer of man-made fibre/filament yarn in the world. The industry contributes over 34 per cent of the raw material consumption of textile mills in India.

RESEARCH ASSOCIATIONS

Ahmedabad Textile Industry's Research Association, Mumbai; Bombay Textile Research Association, Mumbai; South India Textile Research Association, Coimbatore; and Northern India Textile Research Association, Ghaziabad are four cotton textile research associations to carry out research and render consultancy services to the textile industry on various aspects of textile technology. Silk and Art Silk Mills Research Association, Mumbai, is a textile research association whose principal activities include research and development, provision of technical services, testing and training facilities in the field of silk and art silk. The Man-Made Textile Research Association caters to multifarious needs of the textile and allied industry at large primarily aimed at planned and healthy growth of the decentralised textile industry. Indian Jute Industries Research Association, Kolkata has the objective of promoting research and other scientific work connected with the jute trade and industries allied with or accessory thereto. Wool Research Association, Thane is engaged in mechanical processing of wool and woollen blends on woollen spinning system, processing of jute, wool and synthetic fibres on friction spinning, etc.

EXPORTS

Textiles and clothing account for nearly 1/3rd of India's total exports. Textile exports increased from US \$ 9.91 billion in 1996-97 to US \$ 11.26 billion in 1999-2000 with a compound annual rate of growth of 4.35 per cent including jute, coir and handicrafts, it was US \$ 11.72 billion and US\$ 13.32 billion respectively. The readymade garment sector contributes about 41 per cent of the total textile exports.

NATIONAL INSTITUTE OF FASHION TECHNOLOGY

National Institute of Fashion Technology (NIFT) was established in collaboration with the Fashion Institute of Technology (FIT), New York. Over the years, NIFT has emerged as the premier training institute in different areas of fashion

technology. Apart from its Delhi branch, NIFT has six other centres at Bangalore, Kolkata, Chennai, Gandhinagar, Hyderabad and Mumbai.

HEAVY ELECTRICAL INDUSTRY

Heavy electrical industry comprises equipment used for the generation, transmission, distribution and utilisation of power. It includes items such as generators, boilers, turbines, transformers, turbo-motor switchgears, etc. The indigenous industry is equipped to meet entire domestic requirement. The existing installed capacity in the industry is of the order of 4,500 MW of thermal, 1,345 MW of hydro and about 100 MW of gas based power generation equipment per annum respectively. Most of these capacities are in the public sector, in companies such as BHEL. The entire industry has been delicensed. The industry is capable of manufacturing transmission and distribution equipment up to 400 KV AC and high voltage DC. Steam and hydro turbines are manufactured both in the public and private sector. The total capacity is over 7,000 MW. The public sector undertaking BHEL has the capacity of manufacturing steam turbines up to 500 MW unit rating which it is planning to enhance up to 660 MW. BHEL has the capability to manufacture gas turbines up to 255 MW ISO rating.

Boilers of both the categories, namely for industrial and power applications, are being produced in the country. BHEL is capable of making boilers for super thermal power plants. There are 19 manufacturers of industrial boilers in the country. In the organised sector 33 units are manufacturing power and distribution transformers.

Many of the electrical items like electric motor, jelly filled cables, optic fibre cables and pumping sets also qualify for 51 per cent foreign equity and automatic foreign collaboration under the new industrial policy.

AUTOMOBILE

The automotive industry comprising of the automobile and the auto component sectors has shown great advances since delicensing and opening up of the sector to FDI in 1993. The investment in the industry is Rs 50,000 crore up to 31 March 2000. The turnover of the automobile industry exceeded Rs 44,338 crore in 1999-2000. The industry provides direct employment to 4.5 lakh persons and generates indirect employment of one crore. Since liberalisation in 1993-94 to 1996-97, the automobile sector has shown an overall growth rate of over 20 per cent in the number of vehicles manufactured. There has been substantial addition to capacity creation from 1993-94 to 1998-99. Installed capacity in 4-wheelers had increased from 5.2 lakh to 11.76 lakh vehicles. Overall automobile sector achieved a growth of 15 per cent in 1999-2000.

The growth of automobile components industry is closely linked to the growth of automotive industry. Keeping in line with the growth in production/sales of automobiles over the past few years, auto components industry has also registered slow growth. The production during 1999-2000 was of the order of Rs 16,356 crore compared to Rs 12,997 crore during 1998-99.

STEEL

Finished Carbon Steel: Today, India is the ninth largest steel producing country in the world. This sector represents around Rs 90,000 crore of capital and directly provides employment to over five lakh people. The growth rate of finished steel in 2000-01 was 12.1 per cent. The production of finished steel during the last three years was as under:

(in million tonne)

Year	Main Producers	Secondary Producers	Total
1998-99	9.91	13.91	23.82
1999-2000	11.20	15.51	26.71
2000-01	12.45	17.25	29.70

Pig Iron : The production of pig iron in the country has also increased. Production of pig iron from 1998-99 to 2000-01 is as under:

(in million tonnes)

Year	Main Producers	Secondary Producers	Total
1998-99	1.354	1.644	2.998
1999-2000	1.254	1.900	3.154
2000-01	0.96	2.43	3.390

Sponge Iron : Sponge iron industry had been specially promoted so as to provide an alternative to steel melting scrap which was increasingly becoming scarce. Today, India is the second largest producer of sponge iron in the world. The production of sponge iron (Direct Reduced Iron-DRI) during 1998-99 was 5.16 million tonnes (MT). The production during 1999-2000 was 5.33 MT while during 2000-01 it was 5.48 MT.

The Consumption of Steel during 1998-99 was 23.54 MT. It was 25.01 MT during 1999-2000 and 26.65 MT during 2000-2001.

Distribution : The Government of India, on 16 January 1992 abolished the price regulation of the Joint Plant Committee (JPC) on iron and steel, which had been in existence since 1964. However, the requirements of defence, railways, small scale industries sector, exporters of engineering goods and the north-eastern region continue to be met on priority at prices that are announced by the producers from time to time.

The Development Commissioner for Iron and Steel continues to make allocations of pig iron to the designated consumers and the main producers supply the material on the basis of such allocation. To meet the requirements

of steel of small scale industries, allocations are made by the Development Commissioner for Iron and Steel. This is in addition to the purchases made by small scale units, which draw their materials directly from the main producers. The Development Commissioner also continues to issue Release Orders for supplies to exporters of engineering goods and make annual supply plans for the north-eastern region. The requirements of defence and railways are met by the main producers directly.

IMPORT AND EXPORT

Imports and Export of all items of iron and steel is freely allowed. Exports of high grade iron ore, chrome ore and manganese ore are made through designated canalising agencies subject to the ceilings imposed by the Government. Efforts are made to ensure adequate supplies of domestic raw materials to meet the requirements of engineering exporters.

India had been annually importing about 10 to 15 lakh tonnes of steel. The increase in import was mainly in hot rolled coils, cold rolled coils and semis. Import of saleable steel during 2000-01 was about 1.8 million tonnes which was about nine per cent more than the import in 1999-2000.

Exports by Iron & Steel Sector : During 2000-01, the export of finished steel was 2.67 million tonnes. Earlier, exports consisted mainly of plates, structurals, bars and rods, whereas now apart from semis, hot rolled coils, cold rolled coils, colour coated sheets, GP/ GC sheets, pig iron and sponge iron are also being exported.

Reasons for Current Slow Down : The iron and steel sector has been experiencing a slow down for the last three years. The major reasons for the slow growth include: (a) Sluggish demand in the steel consuming sectors; (b) overall economic slow down in the country; (c) lack of investment by Government/Private sector in major infrastructure projects; (d) cost-escalation in the input materials for iron & steel; (e) continuous reduction in import duty on iron and steel; (f) greater competition from imports; (g) dumping of finished steel in the country; and (h) adverse conditions in export markets for iron and steel.

The Ministry of Steel has been making all out efforts to help the domestic steel sector to overcome the problems being faced by the steel industry. These include: (a) Boosting demand in the steel consuming sectors; (b) duty on project imports; (c) reduction in power & rail tariffs; (d) reduction in input costs; (e) import duty; (f) excise duty; and (g) strengthening of anti-dumping mechanism.

Future Prospects: India which is rich in iron ore has also a large human resource pool of scientists and engineers. Labour cost is also one of the lowest in the world. With current focus on modernisation and upgradation by the existing steel plants and state-of-the-art technology being adopted by greenfield steel plants combined with major thrust on downsizing, it is expected that India will succeed in reducing input costs and emerge as a major player in the world steel industry.

FERTILIZERS

Four decades of planning and development of the fertilizer industry have brought India to the frontline of fertilizer producing countries. India today is the third largest producer of nitrogenous fertilizers in the world. There are, at present, 65 fertilizer units, (including seven major urea plants in which production had to be discontinued for reasons of safety/ feedstock limitation, non-viability or financial constraints) manufacturing a wide range of nitrogenous and complex fertilizers, including 39 units producing urea and nine units producing ammonium sulphate as a by-product. Besides, there are about 80 units producing single superphosphate (SSP).

The production capacity of nitrogen has increased from 85,000 tonnes in 1951-52 to 120.54 lakh tonnes as on 1 April 2001 and that of phosphatic fertilizers from 63,000 tonnes to 51.02 lakh tonnes of P205 during the same period. Against the nominal production of 16,000 tonnes of nitrogen and 11,000 tonnes of P205 in 1951-52, the country produced 109.62 lakh tonnes of nitrogen and 37.43 lakh tonnes of P205 during 2000-01. The production target for 2001-02 has been fixed at 116.58 lakh tonnes of nitrogen and 49.30 lakh tonnes of phosphate.

The consumption, indigenous production and imports of fertilizers in terms of fertilizer nutrients (NPK) during the period 1995-96 to 2000-01 are given below:

(lakh tonnes)			
Year	Consumption	Production	Imports
1995-96	138.77	113.35	39.55
1996-97	143.08	111.55	19.75
1997-98	161.88	130.62	31.74
1998-99	167.98	136.24	31.45
1999-2000	180.70	142.89	40.75
2000-01 ¹	165.89	147.05	20.92

¹ Provisional

With the objective of promoting balanced application of all the three nutrients, i.e., nitrogen, phosphate and potash and making available fertilizers to farmers at affordable prices, the Government provides subsidy on urea, which is the only fertilizer at present under statutory price, distribution and movement control and concession on decontrolled phosphatic and potassic fertilizers. The details of amount of subsidy/concession paid on urea and decontrolled phosphatic and potassic fertilizers during the last five years are given below:

(Rs in crore)

Period	Amount of concession disbursed on decontrolled fertilizers	Amount of subsidy disbursed on		
		Indigenous urea	Imported urea	Total
1996-97	1,671.77	4,743.00	1,162.85	5,905.85
1997-98	2,595.85	6,600.00	7,21.96	7,321.96
1998-99	3,789.94	7,473.00	124.22	7,597.22
1999-2000	4,500.00	8,670.00	74.07	8,744.07
2000-01 (RE)	4,319.00	9,480.00	1.00	9,481.00
2001-02 (BE)	5,714.00	7,956.00	500.00	8,456.00

From 1 April 2000, the base rate of concession for year 2000-01 was fixed at Rs 2,800 per MT for indigenous DAP, Rs 950 PMT for imported DAP which has been revised to Rs 1,850 PMT with effect from 1 January 2001 and Rs 2,800 PMT for MOP. For SSP the rate of concession for the period 1 April 2000 to 30 June 2000 was fixed at Rs 800 PMT and from 1 July 2000 to 31 March 2001 at Rs 700 PMT. The level of concession for various complex fertilizers was proportionately fixed taking into account the NPK content in these fertilizers.

PUBLIC SECTOR UNDERTAKINGS

The public sector has been playing a dominant role in the fertilizer industry. The first State-owned fertilizer unit was set up in 1951 at Sindri in Bihar followed by another plant at Nangal in Punjab. With the coming up of another fertilizer plant at Trombay, the Government decided to bring all the public sector fertilizer units under the management of a single undertaking and the Fertilizer Corporation of India Limited (FCI) was accordingly incorporated in January 1961. The National Fertilizers Limited was established in August 1974. Thereafter, the Fertilizer Corporation of India and the National Fertilizers Limited were re-organised into four companies on the basis of feedstock and geographical considerations from 1 April 1978. At present, there are nine public sector undertakings under the administrative control of the Department of Fertilizers. FCI has now four units, one each at Sindri (Bihar), Gorakhpur (U.P.), Talcher (Orissa) and Ramagundam (Andhra Pradesh), with a total installed capacity of 5.87 lakh tonnes of nitrogen. Out of four, only Sindri plant is in operation and production in other plants has been suspended.

The National Fertilizers Limited (NFL) has, at present six operating units, viz., the Calcium Ammonium Nitrate (CAN) Plant at Nangal and the Urea Plants at Nangal, Bhatinda, Panipat and Vijaipur and Vijaipur Expansion. The total installed capacity of NFL has gone up to 15.63 lakh tonnes of nitrogen, equivalent to 32.25 lakh tonnes of urea and 3.20 lakh tonnes of CAN. During 2000-01 the company produced 13.77 lakh tonnes of nitrogen, 29.36 lakh tonnes of urea and 1.07 lakh tonnes of CAN.

Rashtriya Chemicals and Fertilizers Limited (RCF) is operating five fertilizer plants at Trombay set up during the period from October 1965 to July 1982 and a large gas-based fertilizer plant at Thal which started commercial production in 1985. The installed capacity of the RCF plants is 9.55 lakh tonnes of nitrogen and 1.20 lakh tonnes of phosphate. During 2000-01, the production of nitrogen and phosphate was 8.42 lakh tonnes and 0.97 lakh tonnes respectively.

Hindustan Fertilizers Corporation Limited (HFC) has five units, three at Namrup in Assam and one each at Durgapur in West Bengal and Barauni in Bihar, having a total annual installed capacity of 4.24 lakh tonnes of nitrogen. At present only one plant in Namrup-III is in production with the installed capacity of 1.98 lakh tonnes of nitrogen.

The Fertilizers and Chemicals Travancore Limited (FACT), Udyogamandal (Kerala), has three operating units, one at Udyogamandal and two at Cochin. Besides fertilizers, the company is engaged in the manufacture of chemicals. With the commissioning of a caprolactum plant in October 1990, the company has entered the field of petro-chemicals also. FACT Engineering and Design Organisation (FEDO), another division of the company, is engaged in design, engineering, procurement, supervision of construction and commissioning of fertilizer/chemical plants.

Madras Fertilizers Limited (MFL) is a joint venture, with the Government of India holding 58.74 per cent of the equity share capital and the National Iranian Oil Company holding 25.44 per cent and public equity holding is 15.82 per cent. The annual installed capacity of MFL is 3.67 lakh tonnes of nitrogen and 1.43 lakh tonnes of phosphate.

Pyrites, Phosphates and Chemicals Limited (PPCL), set up in March 1960 was engaged in the exploration of pyrites deposits as well as production of single-superphosphate at Amjhore in Bihar, exploration-cum-production mining of pyrites deposits as well as production of single superphosphate at Saladipura in Rajasthan and mining of rock phosphate ore from the Mussoorie phosphorite deposits. At present, production in all the plants have been suspended due to either unviability or liquidity problems.

Paradeep Phosphates Limited (PPL) was established in December 1981 for setting up a phosphatic fertilizer complex at Paradeep in Orissa. The first phase of the project, comprising 7.20 lakh TPA capacity DAP plant and allied facilities, was commissioned in 1986. The second phase of the project, comprising sulphuric acid and phosphoric acid plants went into commercial production in June 1992.

Projects and Development India Limited (PDIL), formerly known as Fertilizer (Planning & Development) India Limited, is engaged in design engineering, procurement and supervision of construction/commissioning of fertilizer and allied chemical plants. The company has played pioneering role in developing the know-how for manufacture of catalysts in India.

COOPERATIVE SECTOR

Indian Farmers Fertilizer Cooperative Limited (IFFCO) incorporated on 3 November 1967 and Krishak Bharati Cooperative Limited (KRIBHCO) incorporated on 17 April 1980 are multi-state cooperative societies under the administrative control of the Department of Fertilizers. IFFCO has six operating units, one each at Kalol and Kandla in Gujarat and Phulpur, Phulpur Expansion, Aonla and Aonla Expansion in Uttar Pradesh. KRIBHCO has a gas-based urea-ammonia plant at Hazira in Gujarat with a capacity to produce 17.07 lakh tonnes of urea per annum (7.85 lakh tonnes in terms of nitrogen). At present IFFCO's installed capacity in terms of nutrients is 18.80 lakh tonnes of nitrogen and 5.61 lakh tonnes of phosphate per annum.

CHEMICALS

The Indian chemical industry occupies an important position in the country's economy. It has been growing at the rate of 12 per cent per annum, which is almost twice the rate of growth of the GDP. The current industry turnover is over Rs 1.150 billion and it contributes 14 per cent of the output of the manufacturing sector. The exports from this sector are over Rs 140 billion, which account for almost 14 per cent of the exports from the manufacturing sector and about 10 per cent of the total exports from the country.

The pesticide industry has developed substantially, contributing significantly towards India's agriculture and health. Besides the use of natural pesticides, biopesticides and their export is picking up.

The Government has promoted the Institute of Pesticide Formulation and Technology (IPFT) at Gurgaon to develop user and environment-friendly pesticide formulations. The institute has developed technologies for manufacturing state-of-the-art formulations like suspensions, concentrates, water dispersible granules, concentrated emulsions, micro emulsions and controlled release formulations.

Dyes and dye intermediates industry forms an important link in the chain of other chemical industries. The textiles industry is a major consumer of dyestuffs. Besides providing employment directly, it is assisting various other industries such as textiles, leather, plastics, paper, etc. India is one of the major countries on the world dyestuff map producing nearly all classes of dyes, pigments and most of the important dye intermediates both for domestic and export market. The dyestuff industry has witnessed a growth rate of more than 50 per cent during the last decade and has emerged as the second largest producer of dyes and dye intermediates in Asian region. Production performance of some of the important chemicals including pesticides and dyestuffs are given below:

(in '000 tonnes)

Item	Installed Capacity	1999-2000	2000-01	2001-02
Soda Ash	1,865.0	1,625.8	1,640.0	1,722.0
Caustic Soda	2,036.0	1,343.8	1,480.0	1,540.0
Carbon Black	345.0	245.2	250.0	275.0
Calcium Carbide	128.9	69.9	66.0	70.0
Phenol	76.6	70.0	72.0	75.0
Methanol	386.0	345.0	360.0	365.0
Tech. Pesticides	138.6	93.7	87.3	94.6
Dyestuffs	58.7	28.3	29.02	32.33

PUBLIC SECTOR UNDERTAKINGS IN CHEMICAL SECTOR

There are two public sector units, namely, Hindustan Organic Chemicals Limited (HOCL) and Hindustan Insecticides Limited (HIL) in the chemicals sector.

Hindustan Organic Chemicals Limited was incorporated in December 1960 at Rasayani, Raigad district in Maharashtra, with the main objective of manufacturing chemical intermediates required for the manufacture of drugs, dyestuffs, rubber chemicals and laminates, etc. The company has two units at Rasayani (Maharashtra) and Cochin (Kerala). Rasayani unit produces organic group of heavy chemicals and intermediates such as nitrobenzene, hydrogen, aniline, sulphuric acid, acetic acid, etc. Cochin unit produces phenol, acetic acid, etc. The company has floated a subsidiary called Hindustan Fluorocarbons Limited for manufacturing polytetrafluoroethylene (PTFE). The production of the company during 1999-2000 was 3,23,202 MT with a turnover of Rs 421.18 crore.

Hindustan Insecticides Limited (HIL), incorporated in 1954, has three units at Delhi, Udyogamandal (Kerala) and Rasayani (Maharashtra). The company also has a subsidiary company, namely, the Southern Pesticides Corporation Limited with headquarters at Hyderabad and a factory at Kovvur. HIL is engaged in the manufacture of DDT, malathion, endosulfan, and butachlor, the major pesticides used in the country. The production by the company during 1999-2000 was 16,539 MT/KL with a turnover of Rs 123.96 crore. The Delhi unit of the company has been closed with effect from 30 November 1996, and is being re-located at Bhatinda (Punjab).

PETROCHEMICALS

The domestic petrochemical industry passed through a difficult phase during the year 2000-01. Their margins were squeezed due to steep rise in feed stock price, coupled with excess capacity. Consequent to high international price of crude oil, the average international price of naphtha was about USD 230/MT. Further the bunching of capacity addition resulted in excess capacity of about 20 per cent which depressed the domestic prices of polymer. Though

the demand registered a robust growth, it may take 2-3 years to absorb excess capacity.

Production of major petrochemicals (synthetic fibre, polymers, elastomers and surfactant intermediate-LAB) increased from 4,619 kt in 1999-2000 to 5,432 kt in 2000-01 registering a growth of 17.6 per cent. The capacity utilisation was about 82 per cent. The capacity and production of major petrochemicals are given below:

Products	(in kilo tonnes)			
	1999-2000		2000-01	
	Capacity	Production	Capacity	Production
Polymers	3,837	2,707	4,109	3,441
Synthetic Fibre	1,944	1,514	2,002	1,555
Elastomers	142	72	145	77
Surfactant Intermediate-LAB	294	326	312	359
Total	6,217	4,619	6,568	5,432

The production of polymers (polyethylenes, polypropylene, poly vinyl chloride and polystyrene) increased from 2,707 kt in 1999-2000 to 3,441 kt in 2000-01 registering a growth of 37 per cent. The capacity utilisation was about 83 per cent. The polymer imports and exports during 1999-2000 were 545 kt and 105 kt respectively. However, during 2000-01 (April to December), the imports and exports were 169 kt and 229 kt respectively.

Synthetic fibre (acrylic fibre, nylon filament yarn/industrial yarn and polyester filament yarn/fibre) production increased from 1,514 kt in 1999-2000 to 1,555 kt in 2000-01, registering a growth of 2.7 per cent. Both polyester filament yarn and polyester staple fibre registered a growth of 2.8 per cent and 2.9 per cent respectively. Capacity utilisation during 2000-01 was 78 per cent. The imports and exports of synthetic fibre during 1999-2000 were 125 kt and 107 kt respectively and during the first nine months of 2000-01, imports and exports of synthetic fibres were 87 kt and 107 kt respectively. M/s Vardhaman Acrylics Limited, commissioned a 16,500 tonnes acrylic fibre plant during 2000-01.

In respect of fibre intermediates (acrylonitrile, caprolactum, DMT/PTA and MEG), the production increased from 1,946 kt in 1999-2000 to 2,385 kt in 2000-01 registering a growth of 22.6 per cent. The capacity utilisation was 98 per cent. The imports and exports of synthetic fibre intermediates during 1999-2000 were 145 kt and 27 kt respectively. During 2000-01 (April to December), imports and exports were 145 kt and 27 kt respectively. M/s MCC PTA Limited, a joint venture of Mitubishi Chemical, Japan and West Bengal Industrial Development Corporation (WBIDC), commissioned a 3,50,000 tonnes per annum Purified Teraphthalate (PTA) Plant at Haldia, West Bengal in April 2000.

The plastic processing industry is making available quality products at affordable prices to cater to a diverse range of consumer demand. There are about 19,000 units, which consumed about 3,500 kt virgin polymers during 2000-2001. About 70-80 per cent of plastic processing units are in small-scale sector, which account for about 20-25 per cent of the total polymer consumption. The industry also consumes recycled plastic, which constitutes 30 per cent of total consumption. During 1999-2000, export value of the plastic products and raw material was US \$ 490 million and 109 million respectively.

There are three organisations in the petrochemical sector under the administrative control of the Department of Chemicals and Petrochemicals. Indian Petrochemical Corporation Limited (IPCL), a public sector undertaking, incorporated in March 1969 is, responsible for manufacture and distribution of various petrochemicals like polymers, chemicals, fibres and fibre intermediates. The company earned a profit of Rs 249 crore in 2000-01. Petrofils Cooperative Limited (PFL), a joint venture of the Government of India and Weavers' Co-operative Societies, produced polyester filament yarn and nylon chips (engineering polymer grade) at its two plants located at Vadodara and Naldhari in Gujarat. The Society has set up the only spandex plant at Naldhari. The PCL, which was doing well until 1993-94 started incurring losses thereafter and its accumulated losses were estimated to be about Rs 460 crore up to 31 March 2000. The Government considered the rehabilitation scheme and found the proposal techno-economically unviable. The Government decided to wind up the Society which formally stands closed from 18 April 2001.

The Central Institute of Plastics Engineering and Technology (CIPET) was established in 1968 as an autonomous organisation under the administrative control of the Department of Chemicals & Petrochemicals. The basic objective of CIPET is to train students in various disciplines of plastics such as mould making, mould design, testing and characterisation of plastics, plastic processing, etc. The institute organises various short-term courses, tailor-made courses, awareness programmes and entrepreneur development programmes, etc., in the field of plastics. Over the years, the institute has grown in size. There are 12 extension centres of CIPET at Ahmedabad, Amritsar, Bhopal, Bhubaneswar, Chennai, Hyderabad, Imphal, Lucknow, Mysore, Patna, Haldia and Guwahati. The centres at Patna, Haldia and Guwahati are under project stage.

DRUGS AND PHARMACEUTICALS

The drugs and pharmaceuticals industry in India, during the last 40 years has shown tremendous progress if one takes into consideration the growth rate as seen in other developing countries. Today, India is in a position to meet 70 per cent of its requirement of bulk drugs and almost all its requirement of formulations. About 250 units in the organised sector, five in the public sector (IDPL, HAL, SSPL, BCPL, BIL), seven in the joint sector and about 5,000 units in the small-scale sector are engaged in the production of drugs. Of these, more than 100 are engaged in the production of bulk drugs.

The pharmaceutical industry in India has the capability of producing a wide range of bulk drugs, covering a large spectrum of technologies and almost all formulations. In fact, the country is almost fully self-reliant in terms of formulation technology. In the case of bulk drugs, the technologies include those for sulpha drugs, vitamins, hormones and a number of new synthetic drugs like Flumenguine, Pefloxacin, Ramipiril, Ketorolac and Lisinopril, etc. Among the bulk drugs, which are critical to the country's health needs, the two most important ones are Pencillin and Rifampicin. The production of Pencillin and Rifampicin has been steadily growing and almost the entire domestic demand for these important drugs is met through indigenous production. Earlier, there was one Pencillin G manufacturing unit, Hindustan Antibiotics Limited (HAL) in the public sector and one unit in the private sector namely M/s Alembic. Three more Pencillin manufacturing units in the private sector, namely, M/s SPIC Pharmaceuticals Limited, JK Pharma Chemical Limited and Torrent Gujarat Biotech Limited have been set up which are producing almost to their full capacity. Besides, HAL has entered into a joint venture with MAX GB Limited, which has further augmented the indigenous production of Pencillin G. The indigenous production of Pencillin has thus doubled to 6,000 MMU and now is able to meet the country's demand. In addition to the two manufacturers of intermediates of Rifampicin from the basic stage, which today meets a major part of the indigenous demand of this important anti-TB and anti-leprosy drug, a new modern private sector unit has started manufacture and commercial production since July 1997.

DRUG POLICY

In view of the experience gained over the years, the Government had felt the need to modify the existing Drug Policy, 1986 so as to bring it in consonance with the Industrial Policy, 1991 and the present EXIM Policy as also to simplify and streamline the existing pricing system. The salient features of the modifications in Drug Policy, 1986 announced on the 15 September 1994 and as amended in February 1999 and March 2000, are: (i) Abolition of Industrial Licensing for all bulk drugs, their intermediates and formulations thereof except for bulk drug produced by the use of recombinant DNA technology and those requiring *in vivo* use of nucleic acid as the active principles. Five bulk drugs, which were earlier dereserved for manufacture by Public Sector Undertakings, have been de-licenced; (ii) Foreign Direct Investment (FDI) up to 74 per cent will be automatically permitted in the case of all bulk drugs, their intermediates and formulations; (iii) Automatic approval, as per the industrial policy, for foreign technology agreements shall be given in the case of all bulk drugs, their intermediates and formulations, except those produced by the use of recombinant DNA technology; (iv) Measures to give further impetus to R&D in the Drug Sector are as follows: (a) A new drug which has not been produced elsewhere, if developed through indigenous R&D would be put outside price control for a period of 10 years from the date of commercial production in favour of the Company who undertook the R&D; (b) If a drug is produced through a process developed indigenously which is significantly different from other known process, then the said drug is eligible for exemption from price control for a period not

exceeding five years; (c) The Ministry of Health and Family Welfare would further streamline the required procedures and steps for the quick evaluation and clearance of new drug applications, specially those developed through indigenous R&D; (v) The system of price control would be operated through a single list of price-controlled drugs, selected on the basis of transparent and objective criteria as laid down in the "Modifications in Drug Policy, 1986" and formulations based thereon with a MAPE of 100 per cent; (vi) In case of basic manufacture, the rate of return would be higher by four per cent over the existing rates which are 14 per cent net worth on 22 per cent on capital employed; (vii) To achieve uniformity in prices of widely used formulations, it has been decided that there should be a ceiling on prices for commonly marketed standard pack sizes controlled formulations and that it would be obligatory for all, including small scale units, to follow the prices so fixed; (viii) An independent body of experts, called the National Pharmaceutical Pricing Authority, has been entrusted with the task of price-fixation/revision and other related matter; (ix) Government keeps a close watch on the prices of medicines which are taken out of price control. In case, the price of these medicines rise unreasonably, the Government would take appropriate measures, including reclamping of price control; (x) A National Drug Authority would be set up by an Act of the Parliament, to be steered by the Ministry of Health and Family Welfare, to look after the quality control aspects, rational use of drugs and related matters; and (xi) To provide better focus to all matters relating to developing and promotion of indigenous and other systems of medicines, a separate Department has been created by the Ministry of Health and Family Welfare.

FDI up to 100 per cent is permitted through the automatic route for manufacture of drugs and pharmaceuticals, provided the activity does not attract compulsory licensing or involve use of recombinant DNA technology, and specific cell-tissue targeted formulations. FDI proposals for the manufacture of licensable drugs and pharmaceuticals and bulk drugs produced by recombinant DNA technology and specific cell/tissue targeted formulations will require prior Government approval.

DRUGS (PRICE CONTROL) ORDER, 1995

The Drugs (Price Control) Order (DPCO), 1995 has been notified by the Government on 6 January 1995. This Order has now come into force in place of the DPCO, 1987. The DPCO '95 has taken into account the modifications in the Drug Policy, 1986 announced by the Government in September 1994 in regard to the price control on drugs and has been issued in exercise of the powers conferred on the Central Government by Section 3 of the Essential Commodities Act, 1955.

PHARMA PUBLIC SECTOR UNDERTAKINGS

Indian Drugs and Pharmaceuticals Limited (IDPL) was incorporated under the Companies Act, 1956, on 5 April 1961. The company has five plants including two wholly-owned subsidiaries—one each located in Rishikesh

(Uttaranchal), Hyderabad (Andhra Pradesh), Gurgaon (Haryana), Chennai (Tamil Nadu) and Muzaffarpur (Bihar).

IDPL has also set up three subsidiary companies in collaboration with the respective State governments for production of quality pharmaceutical formulations. These are Rajasthan Drugs and Pharmaceuticals Limited (RDPL), Jaipur, Uttar Pradesh Drugs and Pharmaceuticals Limited (UPDPL), Lucknow and Orissa Drugs and Chemicals Limited (ODCL), Bhubaneswar.

Hindustan Antibiotics Limited (HAL), incorporated in March 1954, was the first public sector undertaking in the field of pharmaceuticals. The company was set up primarily with the objective of manufacturing penicillin and other antibiotics. It also produces streptomycin, haymycin and aureofungin, besides formulations. HAL has three subsidiary companies, promoted in collaboration with the respective State governments, Karnataka Antibiotics and Pharmaceuticals Limited (KAPL), Bangalore; Maharashtra Antibiotics and Pharmaceuticals Limited (MAPL), Nagpur; and Manipur State Drugs and Pharmaceuticals Limited (MSDPL), Imphal. In addition there is one joint venture unit with Max G.B. Limited (private sector) for production of penicillin, *viz.*, Hindustan Max G.B. Limited.

There are three public sector undertakings engaged in the manufacture of drugs and formulations located at Kolkata. These were private sector companies, pioneers again in their own field, but had been ailing over the years for various reasons. The management of these companies was taken over by the Central Government in terms of the Industries (Development and Regulation) Act, 1951 and subsequently they were nationalised and new public sector companies namely: Bengal Immunity Limited (BIL), Bengal Chemicals and Pharmaceuticals Limited (BCPL) and Smith Stanistreet Pharmaceuticals Limited (SSPL) were formed. Their main manufacturing activities are concentrated in West Bengal. BIL used to be one of the largest producers of SERA and vaccines toxoids. It also produces other pharmaceuticals of anti-snake venom, some home products like hair oil, perfumes, etc. BCPL produces some herbal products also. SSPL is engaged in the manufacture of pharmaceuticals formulations. Since these companies were incurring losses over the years, their case for revival has been referred to BIFR.

NATIONAL INSTITUTION OF PHARMACEUTICAL EDUCATION AND RESEARCH

The Government of India has set up the National Institute of Pharmaceutical Education and Research (NIPER) with an outlay of Rs 99 crore at Mohali, near Chandigarh. The Institute caters to curricula development for pharmacy colleges and augments the number of qualified and professional pharmacists. It conducts regular programmes for academia and industry. The institute has started masters and doctoral programmes in various disciplines. It has been extending technical services in R&D in pharmaceutical industry.

MINERALS

India is richly endowed with minerals. Under the Constitution, mineral rights

and the administration of mining laws are vested in the respective State governments. The Centre, however, regulates the development of minerals under the Mines & Minerals (Development & Regulation) Act, 1957 and the rules and regulations framed thereunder. This statute empowers the Central Government to formulate rules for: (i) The grant, renewal, etc., of reconnaissance permits, prospecting licences and mining leases for major minerals (*viz.*, Mineral Concession Rules, 1960); (ii) The conservation and development of minerals (*viz.*, Mineral Conservation & Development Rules, 1988 for major minerals (except atomic, fuel and minor minerals) and Granite Conservation and Development Rules, 1999 for granite; and (iii) The modification of old leases. The Act came into force on 1 June 1958. Amendments to this Act were made in 1972, 1986, 1994 and 1999.

MINERAL RESOURCES

Principal minerals found in the country along with their estimated reserves are given below.

COAL AND LIGNITE

Resource wise coal occupies the pride of place in the inventory of mineral resources in India. Incidentally, India ranks third in the world after China and USA in the realm of coal production. Coal occurs in rock sequences mainly of two geological ages namely Gondwana (little over 200 million years in age) and Tertiary deposit which were found at a much later geological epoch (about 55 million years). The major resources of Gondwana coal are located in coalfields occupying the Indian heartland in the state of West Bengal, Bihar, Orissa, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Maharashtra. Tertiary coals occur in Assam, Arunachal Pradesh, Meghalaya and Nagaland. Besides, brown coal or lignite occurs in coastal areas of Tamil Nadu, Gujarat and inland basin of Rajasthan. The total known geological reserves of all types of coal in Gondwana and Tertiary coalfields stands estimated at 208.75 billion tonnes as on 1 January 1999. Resource-wise coalfields of Orissa contain the largest reserves though mostly of inferior quality coal. Metallurgical coal is restricted to parts of Damodar Valley Coalfields in West Bengal and Bihar and in the Central Indian coalfields, namely, Sohampur, Sonhat, Jhilmill and Satpura. The reserves of lignite have been estimated as a little over 29.36 billion tonnes out of which the major contributor is the lignite basins of Tamil Nadu.

BAUXITE

The total recoverable reserves of bauxite in the country are placed at 2,462 million tonnes while the total *in situ* reserves are 2,953 million tonnes. About 88 per cent of the recoverable reserves are of metallurgical grade. The conditional resources of bauxite are about seven lakh tonnes. In addition prospective resources are placed at nine million tonnes. Orissa, Andhra Pradesh, Madhya Pradesh, Gujarat, Maharashtra and Bihar are the principal states where bauxite deposits are located. Major reserves are concentrated in the East Coast Bauxite deposits of Orissa and Andhra Pradesh.

CHROMITE

Total recoverable reserves of chromite are estimated at 90.23 million tonnes as on 1 April 2000. Out of the total recoverable reserves of all grades, about 18 per cent is metallurgical and 22 per cent charge chrome grade. Total geological resources are estimated at 184 million tonnes consisting about 105 million tonnes *in situ* reserves and about 79 million tonnes as conditional resources. The largest share (about 96 per cent) in the total geological resources is accounted by Cuttack district in Orissa. Deposits of economic significance occur in Orissa, Karnataka, Maharashtra, Bihar, Tamil Nadu, Andhra Pradesh and Manipur. However, refractory grade reserves of chromite are very meagre.

COPPER

The total recoverable reserves of copper ore in the country are 537.86 million tonnes as on 1 April 2000 equivalent to 5.30 million tonnes of metal content. The all-India conditional resources of copper are 721 million tonnes (3.16 million tonnes of copper metal) and prospective resources are 0.6 million tonnes of copper ore. Major and important copper ore deposits are located in Singhbhum district (Jharkhand), Balaghat district (Madhya Pradesh) and Jhunjhunu and Alwar district (Rajasthan). In addition, small copper ore deposits are in Gujarat, Karnataka, Andhra Pradesh, Orissa, Uttar Pradesh, Sikkim, Meghalaya, Maharashtra and West Bengal.

GOLD

There are three important gold fields in the country, namely, Kolar Gold Field, Kolar district, Hutti Gold Fields in Raichur district (both in Karnataka) and Ramagiri Gold Field in Anantapur district (Andhra Pradesh). Total recoverable reserves of gold ore are estimated at 177.9 lakh tonnes with 67.9 tonnes of metal.

IRON ORE

The total recoverable reserves of iron ore in the country are about 10,052 million tonnes of haematite and 3,408 million tonnes of magnetite. The resources of very high grade ore are limited and are restricted mainly in Bailadila sector of Madhya Pradesh and to a lesser extent in Bellary Hospet area of Karnataka and Barajamda sector in Jharkhand and Orissa. Haematite resources are located in Orissa, Bihar, Madhya Pradesh, Karnataka, Goa, Maharashtra, Andhra Pradesh and Rajasthan. Magnetite resources are located in Karnataka, Andhra Pradesh, Goa, Kerala, Bihar, Rajasthan and Tamil Nadu.

LEAD-ZINC

Lead-zinc resources are located in Rajasthan, Gujarat, Maharashtra, West Bengal, Orissa, Uttar Pradesh, Andhra Pradesh, Meghalaya, Madhya Pradesh, Tamil Nadu and Sikkim. Total recoverable reserves (all grade) of lead and zinc ores are 176.84 million tonnes comprising metal content of 2,381 thousand tonnes of lead and 9.7 million tonnes of zinc metal. The conditional resources of lead-zinc are 280 million tonnes as on 1 April 2000 in the country.

MANGANESE

The total recoverable reserves of manganese ore are 161 million tonnes out of which 40 million tonnes are proved, 49 million tonnes probable and 78 million tonnes of possible category. Main reserves are distributed in Orissa followed by Karnataka, Madhya Pradesh, Goa, and Maharashtra. Minor occurrences of manganese ore are located in Andhra Pradesh, Bihar, Gujarat, Rajasthan and West Bengal.

NICKEL

The total estimated conditional resources of nickel ore is 188.71 million tonnes located in Orissa (174.48 million tonnes) and Jharkhand (nine million tonnes).

TUNGSTEN

The total recoverable reserves of tungsten ore have been estimated at 38.11 million tonnes or 87 thousand tonnes of WO₃ content. The main reserves are located at Degana in Rajasthan. It also occurs in Andhra Pradesh, Maharashtra, Haryana and West Bengal.

BARYTES

The recoverable reserves of barytes are placed at 87 million tonnes. The Managampet deposit occurring in Cuddapah district (Andhra Pradesh) is the single largest deposit in the world containing 61 million tonnes of recoverable reserves. Minor occurrences of barytes are located in Rajasthan, West Bengal, Madhya Pradesh, Tamil Nadu, Maharashtra, Himachal Pradesh, Bihar, Uttar Pradesh and Karnataka.

DIAMOND

Diamond deposits occur in three types of geological settings such as kimberlite pipes, conglomerate beds and alluvial gravels. The main diamond bearing areas in India are Panna belt in Madhya Pradesh, Munimadugu-Banganapalle conglomerate in Kurnool district, Wajrakarur kimberlite pipe in Anantapur district and the gravels of Krishna river basin in Andhra Pradesh. Reserves have been estimated only in Panna belt and Krishna gravels in Andhra Pradesh. In addition to the recoverable reserves of about 0.982 million carats, there are conditional resources of 1,896 thousand carats.

DOLOMITE

Dolomite occurrences are widespread in almost all parts of the country. The total recoverable reserves of all grades of dolomite are 4,387 million tonnes. Of the total all India recoverable reserves, the major share of about 90 per cent reserves is distributed in the states of Madhya Pradesh, Chhattisgarh, Orissa, Gujarat, Karnataka, West Bengal, Uttar Pradesh, and Maharashtra. The reserve of BF and SMS grade are large, but those of refractory grade at 117 million tonnes constitute only 2.7 per cent of the all India reserves.

FIRECLAY

Fireclay occurs as a bedded deposit, mostly associated with coal measures

of Gondwana and Tertiary periods. Important deposits are associated with Jharia and Raniganj coal fields in Jharkhand and West Bengal, Korba coal fields in Madhya Pradesh and Neyveli lignite field in Tamil Nadu. Notable occurrences of fireclay not associated with coal measures are known in Gujarat, Jabalpur region of Madhya Pradesh and Belpahar Sundergarh areas of Orissa. The recoverable reserves of fireclay are about 518 million tonnes.

FLUORSPAR

Total recoverable reserves of fluor spar in India are 2.95 million tonnes. Commercial deposits of fluor spar are located in Rajasthan, Gujarat, Maharashtra and Madhya Pradesh.

GYPSUM

The recoverable reserves of gypsum are estimated at 238 million tonnes. Out of this, 345 thousand tonnes are of surgical/plaster grade, 39 million tonnes of fertilizer/pottery grade, 34.33 million tonnes of cement/paint grade, 5.5 million tonnes of soil reclamation grade and the rest is unclassified. The production of gypsum is confined to Rajasthan, Jammu and Kashmir, Tamil Nadu and Gujarat. Rajasthan is the main producer of gypsum followed by Jammu and Kashmir.

GRAPHITE

The recoverable reserves of graphite are 4.58 million tonnes. Orissa is the major producer of graphite. Almost the entire reserves of Tamil Nadu under proved category are in Ramanathapuram district. Deposits of commercial importance are located in Andhra Pradesh, Jharkhand, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan & Tamil Nadu.

ILMENITE

The recoverable reserves of ilmenite are 90.15 million tonnes. Ilmenite occurs mainly in beach sand deposits right from Ratnagiri coast in the west to Orissa coast in the east. These minerals are found in Kerala, Andhra Pradesh, Tamil Nadu, Orissa, Maharashtra and West Bengal.

KAOLIN

The all India recoverable reserves of kaolin including whiteclay of all categories are about 1,042 million tonnes. Principal producing states are Kerala, West Bengal, Bihar, Rajasthan and Gujarat. Ball clay is mainly produced in West Godavari district of Andhra Pradesh and Bikaner district of Rajasthan.

LIMESTONE

The total recoverable reserves of limestone of all categories and grades are placed at 75,679 million tonnes. The total conditional reserves have been estimated at 701 million tonnes. The major share of its production comes from Madhya Pradesh, Rajasthan, Andhra Pradesh, Tamil Nadu, Gujarat, Himachal Pradesh, Karnataka, Maharashtra, Orissa, Bihar, Uttaranchal and

Uttar Pradesh. The remaining parts come from Assam, Haryana, Jammu and Kashmir, Kerala and Meghalaya.

MICA

India is the world's leading producer of sheet mica and accounts for about 60 per cent of global mica trade. Important mica bearing pegmatite occur in Andhra Pradesh, Bihar and Rajasthan. The tentative recoverable reserves of mica in Andhra Pradesh are 44,837 tonnes, in Bihar 13,554 tonnes and in Rajasthan 1,589 tonnes.

MAGNESITE

The total recoverable reserves of magnesite are about 245 million tonnes of which 49 million tonnes are in the proved category. Major deposits of magnesite are found in Uttar Pradesh, Tamil Nadu and Rajasthan while minor occurrences are in Jammu and Kashmir, Karnataka, Himachal Pradesh, and Kerala.

KYANITE AND SILLIMANITE

The total recoverable reserves of kyanite and sillimanite in the country are 2.82 million tonnes and 51.6 million tonnes respectively. Besides, conditional resources of 160.92 million tonnes of kyanite are also estimated. For sillimanite conditional resources are estimated at 5.87 million tonnes. Kyanite deposits are located in Maharashtra, Karnataka, Bihar, Rajasthan and Andhra Pradesh. Sillimanite resources are in Orissa, Tamil Nadu, Kerala, Andhra Pradesh and West Bengal and minor occurrences in Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya and Rajasthan.

PHOSPHATE MINERALS

Deposits of phosphorites are located in Rajasthan, Madhya Pradesh, Uttar Pradesh and Gujarat. Besides, apatite deposits of commercial importance are reported from West Bengal, Jharkhand, Andhra Pradesh, Tamil Nadu and Rajasthan. Recoverable reserves of phosphorite are estimated at 142.63 million tonnes of all grades and of apatite at 13.64 million tonnes.

OTHER MINERALS

Other minerals occurring in significant quantities in India are bentonite (Rajasthan, Gujarat, Jharkhand and Jammu & Kashmir), corundum (Karnataka, Rajasthan, Andhra Pradesh, and Madhya Pradesh), calcite (Andhra Pradesh, Rajasthan, Madhya Pradesh, Tamil Nadu, Haryana, Karnataka, Uttar Pradesh, and Gujarat), fuller's earth (Rajasthan, Arunachal Pradesh, Andhra Pradesh, Assam, Karnataka and Madhya Pradesh), feldspar (Rajasthan, Bihar, Tamil Nadu, Andhra Pradesh, Maharashtra, West Bengal and Karnataka), garnet (Tamil Nadu, Orissa, Andhra Pradesh, Rajasthan and Kerala), pyrites (Bihar, Rajasthan, Karnataka, Himachal Pradesh and Andhra Pradesh), steatite (Rajasthan, Uttar Pradesh, Kerala, Maharashtra and Madhya Pradesh), wollastonite (Rajasthan and Gujarat), zircon (beach sand of Kerala, Tamil Nadu, Andhra Pradesh and Orissa) and quartz and silica minerals are

widespread and occur in nearly all states. Besides, the country has vast resources of building/dimension and ornamental stones such as granite, marble, slate and sandstone. Granite is mainly mined in Tamil Nadu, Karnataka, Andhra Pradesh and Rajasthan, marble in Rajasthan, Gujarat and Uttar Pradesh and slate in Madhya Pradesh, Haryana and Andhra Pradesh and sandstone in Rajasthan.

MINERAL EXPLORATION AND DEVELOPMENT

A number of organisations are engaged in the exploration and development of mineral resources in India. These include Geological Survey of India (GSI), Mineral Exploration Corporation Limited, Indian Bureau of Mines (IBM) and a number of public sector undertakings under the administrative control of the Ministry of Mines.

GEOLOGICAL SURVEY OF INDIA

The Geological Survey of India (GSI) is a premier national scientific survey and research organisation and is also the principal provider of basic earth science information to the government, industry and the general public as well as responsive participant in international geoscientific fora. Set up in 1851, the GSI over the years has expanded its role in economic and social development of the country. The vibrant steel, coal, metals, cement and hydel power industries, bear testimony to the GSI's relevance in the national context. Management of risks due to natural hazards such as floods, landslides and earthquakes, defining and delineating areas prone to environmental degradation and providing geological inputs to optimise developments in the transport and communication sectors have rapidly become important functions of the survey. GSI's role has also crossed the shoreline of the country to include the Exclusive Economic Zone (EEZ) as well as in extended continental shelf in the surrounding ocean and also in the icy continent of Antarctica for geoscientific studies and inventory of resources. It has grown into one of the largest scientific organisations in the country with a personnel strength of 16,302 as on 1 August 2000.

The functions of the Geological Survey of India encompass wide spectrum of earth science activities such as geological, geophysical and geochemical mapping, specialised thematic studies, ground and airborne geophysical surveys, marine surveys, geoenvironmental studies comprising district level appraisal, impact assessment, urban development and natural public health hazards, geotechnical and seismotectonic surveys and various laboratory studies. The main focus is on development of minerals like gold, diamonds, base metals, coal and lignite besides ferrous and industrial refractory minerals, etc. Creation and updating of national geoscientific information and knowledge base through ground marine and airborne survey and concept oriented thematic mapping/studies, Integrated Natural Resources Survey for Rural Development (Project DOVEMAP), geotechnical investigations related to water resources development, geo-environmental investigations, natural hazards studies and disaster management including seismotectonic and landslides zonation studies are other areas of activity.

A set of roles identified for the organisation are: principal geoscience information provider, updating/refinement of national geoscientific infrastructure, augmentation of national mineral resources inventory, regional mineral exploration, establishment of exploration data repository, integrated natural resources surveys for rural development, engineering and environmental geotechniques, baseline geoenvironmental data collection, studies on natural hazards and collection and dissemination of geoscientific information.

INDIAN BUREAU OF MINES

The Indian Bureau of Mines (IBM) established in 1948, is a national organisation under the Ministry of Mines, engaged in promotion, conservation and scientific development of mineral resources, other than coal, petroleum and natural gas, atomic minerals and minor minerals. It performs regulatory functions also undertakes scientific and techno-economic research oriented studies in various areas such as geological mining, ore-beneficiation, mineral economics and environmental aspects of mining. IBM prepares mineral maps and inventory of mineral resources of the country. It also functions as data bank for mines and minerals and publishes statistical periodicals and brings out technical publications/monographs on individual mineral commodities and bulletins on subjects of topical interest. It advises the Central and State governments on various aspects of mineral industry, trade and legislation. The IBM imparts training to technical and non-technical officials and also persons from the mineral industry and other agencies in India and abroad. With headquarters at Nagpur, it has three zonal offices, 12 regional offices and two sub-regional offices all over the country. The Bureau has a modern mineral processing laboratory and pilot plant at Nagpur and two regional ore-dressing laboratories and pilot plants at Ajmer and Bangalore.

The IBM's library has more than 61,000 publications and about 10,000 technical journals. The website of IBM can be accessed through Internet using the <http://ibm.nic.in>.

PUBLIC SECTOR UNDERTAKINGS

MINERAL EXPLORATION CORPORATION LIMITED

Mineral Exploration Corporation Limited (MECL) was established as public sector undertaking by the Government of India in 1972 with the main objective of systematic exploration of minerals and bridging the gap between the discovery of mineral prospect and its eventual exploitation. Its major functions are to plan, promote, organise and implement programmes for the exploration of mineral resources. The Corporation has its headquarters at Nagpur. MECL has established over 10,070 million tonnes of reserves for a variety of minerals. During 2000-2001 the turnover of the company was Rs 59.60 crore.

BHARAT ALUMINIUM COMPANY LIMITED

The Bharat Aluminium Company Limited (BALCO) was incorporated on 27 November 1965 as the first primary aluminium producing undertaking in the public sector. The company is operating the Korba Aluminium Complex in

Bilaspur district of Chhattisgarh and Bidhanbag unit in Asansol in West Bengal. The Korba Aluminium Complex has facilities for production of two lakh tonnes of alumina per annum and one lakh tonnes of saleable aluminium metal, *i.e.*, rolled products, extrusions, properzi rods and ingots. The Bidhanbag unit has an assessed annual production capacity 6,400 tonnes of saleable fabricated products, *viz.*, rolled products foils and conductors. The Government has transferred 51 per cent of its equity together with the management control in favour of M/s Sterlite Industries (India) Limited, with effect from 2 March 2001.

NATIONAL ALUMINIUM COMPANY LIMITED

The National Aluminium Company Limited (NALCO) is located in Orissa and is India's largest aluminium plant. The company was incorporated on 7 January 1981 with its registered office at Bhubaneswar. The aluminium plant complex consists of a bauxite mine of 2.4 MTPY capacity at Panchpatmali (Koraput), an alumina refinery of 0.8 MTPY capacity at Damanjodi (Koraput), and the aluminium smelter of 2.30 lakh TPY capacity along with 6 x 120 MW captive power plant at Angul. The company recorded a net profit (PBT) of Rs 838.75 crore and achieved sales turnover of Rs 2,406.01 crore during 2000-2001. It also earned foreign exchange of Rs 1,314.20 crore during this period. The Government has approved expansion of the capacity of the bauxite mine from 2.4 MTPY to 4.8 MTPY and that of alumina refinery from 0.8 MTPY to 1.575 at a cost of Rs 1,664.60 crore. The Government has also approved expansion of the capacity of the smelter from 2,30,000 TPY to 3,45,000 TPY and captive power plant (CPP) from 720 MW to 840 MW, *i.e.*, by adding the seventh unit of CPP at a cost of Rs 2,062 crore (at June 1997 price level). The Government has further approved expansion of the capacity of CPP from 840 MW to 960 MW on 14 February 2001 at a cost of Rs 480 crore (August 2000 price level). The projects are under implementation.

HINDUSTAN ZINC LIMITED

Hindustan Zinc Limited (HZL) was incorporated on 10 January 1966 to take over operations of the erstwhile Metal Corporation of India Limited and to develop mining and smelting capacities to substantially meet the increasing domestic demand of zinc and lead metals. With headquarters at Udaipur, HZL's operations are spread over in the states of Rajasthan, Andhra Pradesh, Orissa and Jharkhand consisting of five mines with a total lead-zinc ore production capacity of 1,69,000 tpa zinc and 43,000 tpa lead, besides rock phosphate. Its lead smelter plant at Visakhapatnam, which had an installed capacity of 22,000 tonnes per annum, stands closed with effect from 24 January 2001. The Company offers a wide range of zinc and lead metal grades to its customers, besides a range of by-products. During 2000-2001 the production of zinc and lead metals was 1,48,092 tonnes and 33,500 tonnes respectively. The sales turnover of the Company during 2000-2001 was Rs 1,610 crore. The Company earned a net profit of Rs 280 crore.

HINDUSTAN COPPER LIMITED

Hindustan Copper Limited (HCL), the sole producer of primary copper in

the country, was incorporated on 9 November 1967, as a public sector enterprise under the then Ministry of Steel and Mines (Government of India) with Khetri Copper Complex as its main unit. Subsequently, Indian Copper Corporation was nationalised and taken over by HCL in 1972. Today, the main units of the Company are : (i) Khetri Copper Complex in Rajasthan, (ii) Indian Copper Complex in Jharkhand, (iii) Malanjkhand Copper Project in Madhya Pradesh and (iv) Taloja Copper Project in Maharashtra. HCL produces primary copper in the form of cathodes, wirebars and wire rods. The Company is also engaged in the production of gold, silver, selenium, tellurium and manufacture of single super phosphate sulphuric acid, copper sulphate and nicked sulphate as by-products. The total installed capacity of HCL is 47,500 tpa refined copper and 60,000 tpa wire rods at Taloja. During 2000-2001 HCL produced 34.77 lakh tonnes of ore, 42,717 tonnes of blister copper and 42,245 tonnes of refined copper (cathode).

BHARAT GOLD MINES LIMITED

Bharat Gold Mines Limited (BGML) having registered office at Kolar Gold Fields was incorporated as a public sector company under the then Ministry of Mines on 1 April 1972. It was engaged in mining and production of gold from its captive mines. The company was referred to the Board for Industrial and Financial Reconstruction (BIFR) who gave its verdict in June 2000 to wind up the BGML in public interest. The verdict of BIFR was also upheld by Appellate Authority for Industrial and Financial Reconstruction. The Ministry of Labour's orders for its closure have been challenged in High Court of Karnataka and the matter is *sub judice*. However, from April to September 2000, the Company produced 65 kg gold.

SIKKIM MINING CORPORATION

Sikkim Mining Corporation was established in 1960 as a joint venture of Government of Sikkim and Government of India with the share capital ratio of 51:49 per cent respectively by the proclamation of erstwhile "Sikkim Durbar". The objective of the Corporation is to mine multimetal sulphide ore and produce copper, lead and zinc. The process plant of the company namely Bhotang mine is at Rangpo. Another mine, Pacheykhani mine produces copper ore only.

The Pacheykhani mine (exploratory) has been producing copper concentrate. The ore mined from Bhotang and Pacheykhani mines are processed separately at Bhotang Concentrator Plant, Rangpo.

During 2000-01 the Corporation produced 22,018 MT of ore, 1,038.5 MT of copper, 260 MT of lead and 271.5 MT of zinc concentrates.

MINERAL AND METAL PRODUCTION

Production of important minerals during 1999-2000 and 2000-2001 is given in table 20.3. Production of important non-ferrous metals during the last seven years is shown in table 20.4.

TABLE 20.3 : MINERAL PRODUCTION 1999-2000 AND 2000-2001

(Value in Rs '000)

Minerals	Unit	1999-2000		2000-2001	
		Qty	Value	Qty	Value
ALL MINERALS			530510357		480166718
FUEL MINERALS			472753362		426761654
Coal	000 t	309620	200280159	304103	197413300
Lignite	000 t	23552	11153183	22124	10510245
Natural Gas (U)	mcm	27860	80707200	26885	71454117
Petroleum (C)	000 t	32426	180612820	31949	147383992
MET. MINERALS			38952575		34874538
Bauxite	tonne	7893110	1551386	7049943	130311
Chromite	tonne	1951649	3510829	1737985	3467169
Copper (Ore)	tonne	3482991	-	3084849	-
Copper (Conc.)	tonne	163558	3401387	165024	3105642
Gold (Ore.)	tonne	439609	-	569824	-
Gold (Total)	kg	7554	3388509	2586	1421167
Gold (Primary)	kg	2022	971324	2153	1238630
Gold (Secondary)	kg	5532	2417185	433	182537
Iron Ore (Total)	000 t	79210	20962664	74946	19236584
Iron Ore (Lumps)	000 t	32840	7921357	32090	7249587
Iron Ore (Fines)	000 t	40433	8869208	36138	7574298
Iron Ore (Conc.)	000 t	5937	4172099	6718	4412699
Lead & Zinc Ore	tonne	2648869	-	2755390	-
Lead Conc.	tonne	54493	782589	62899	904011
Zinc Conc.	tonne	365164	2956480	360138	3067935
Manganese Ore	tonne	1556430	1900126	1585726	1930972
Silver	kg	64684	497567	53641	437919
Tin Conc.	kg	12979	1038	22812	1828
NON-MET. MINERALS			18804420		18530526
Agate	tonne	120	120	120	120
Apatite	tonne	11117	12992	11642	13573
Phosphorite	tonne	1252918	2029819	1191640	1771705
Asbestos	tonne	14516	20004	18550	20049
Ball Clay	tonne	389894	33741	398236	41430
Barytes	tonne	836574	312205	363414	155205

Calcite	tonne	62091	23685	60134	22403
Chalk	tonne	123646	32145	142065	36169
Clay (others)	tonne	216354	10537	217446	10187
Corundum	kg	9	32	20	20
Corundum (Ruby)	kg	-	-	-	-
Diamond	Carat	57406	276837	40956	213985
Diaspore	tonne	8667	6020	9406	8176
Dolomite	tonne	2964289	680871	2815396	681364
Dunite	tonne	173188	45580	229667	77986
Felspar	tonne	157897	20860	194158	29513
Fireclay	tonne	347869	42029	400334	46948
Felsite	tonne	928	678	656	581
Fluorite (Graded)	tonne	43802	157031	44784	150713
Fluorite Conc. (Total)	tonne	3253	21564	220	1430
Fluorite Conc. (A)	tonne	2099	14063	-	-
Fluorite Conc. (M)	tonne	1154	7501	220	1430
Garnet (Abrasive)	tonne	274275	77507	193406	53373
Garnet (Gem)	kg	458	42	800	112
Graphite (R.O.M.)	tonne	135036	42194	108826	38817
Gypsum	tonne	2706855	418534	3247009	512041
Jasper	tonne	5356	1026	5709	1289
Kaolin (Total)	tonne	791048	583591	805560	641562
Kaolin (Natural)	tonne	630115	84552	636942	74293
Kaolin (Processed)	tonne	160933	499039	168618	567269
Kyanite	tonne	4385	3384	6191	4746
Sillimanite	tonne	15492	56769	14933	54770
Laterite	tonne	560724	30044	795017	56059
Limestone	000 t	126070	12564409	128787	12465362
Lime Kankar	tonne	238837	28408	206767	24538
Limeshell	tonne	86949	43993	98033	53542
Magnesite	tonne	317255	337796	325764	465108
Mica Crude (P)	tonne	1111	24643	1807	35325
Mica (Waste & SCR)	tonne	1267	-	1579	-
Ochre	tonne	367846	18981	418519	21934
Perlite	tonne	274	274	383	383
Pyrites	tonne	-	-	9539	10025

Industry

Pyrophyllite	tonne	144311	34149	106268	29992
Quartz	tonne	261057	35645	251164	31206
Quartzite	tonne	53671	14936	60506	19250
Silica Sand	tonne	2073043	162617	1558419	163635
Sand (others)	tonne	1971133	52529	1875097	46808
Salt (Rock)	tonne	2530	3586	2813	4042
Shale	tonne	814266	21994	779949	17115
Slate	tonne	8827	1892	10559	2998
Steatite	tonne	553241	418363	557112	390174
Sulphur	tonne	62047	-	24883	-
Vermiculite	tonne	4984	4507	3123	3315
Wollastonite	tonne	120944	95807	117094	101448

SMALL INDUSTRIES DEVELOPMENT ORGANISATION

The Small Industries Development Organisation (SIDO), set up in 1954 under the Ministry of Small Scale Industry and Agro and Rural Industry functions as an apex body in the formulation of policies and coordination of institutional activities both at the Centre and the State levels, for sustained and organised growth of Small Scale Industries (SSIs). SIDO provides a comprehensive range of facilities and services through its network of 28 small industries services institutes, 30 branch institutes, 10 tool rooms, one extension centre, six product-cum-process development centres, five training institutes, namely, NISIET at Hyderabad, NIESBUD at Delhi, integrated training centre at Nilokheri, SEPTI at Tiruvalla and Ettumanoor, four regional testing centres and seven field testing stations.

SIDO has the following continuing schemes under operation for Small Scale Industries : (i) Prime Minister's *Rozgar Yojana*; (ii) Integrated Infrastructure Deveopment Scheme; (iii) Quality Upgradation in Small Scale Sector through incentive for ISO 9000 Certification; (iv) Small Enterprises Information and Resource Centre Network (SENET); and (v) Technology Upgradation and Modernisation Programme (UPTECH).

NEW SCHEMES

(i) Credit Guarantee Scheme : The Credit Guarantee Scheme has been launched to provide guarantee to loans up to Rs 10 lakh (revised to Rs 25 lakh) extended by Commercial Banks and few selected well performing Regional Rural Banks, without any collateral including third-party guarantee; and (ii) Credit Subsidy Scheme for Technology Upgradation. The Government approved the scheme on 20 September 2000, wherein 12 per cent back-ended capital subsidy would be admissible on loans advanced to small scale industries by the scheduled commercial banks/designated SFCs for technology upgradation in certain sub-sectors.

SMALL SCALE SECTOR

The small scale sector has acquired a prominent place in the socio-economic development of the country during the past 50 years. It has contributed to

TABLE 20.4 : PRODUCTION OF NON-FERROUS METALS

Metals	Unit	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001 ¹
Aluminium	Tonne	4,76,521	5,29,264	52,60,612	5,53,640	5,42,005	6,18,682	6,42,844
Copper (Blister)	Tonne	50,454	40,259	41,416	43,655	37,717	42,334	42,717
Refined Copper (Cathodes)	Tonne	46,134	41,153	38,481	42,375	35,834	38,464	42,245
Gold	Kg	2,373	2,036	2,710	2,636	2,463	2,262	2,297
Lead (Primary)	Tonne	34,476	40,311	38,329	44,604	50,145	44,480	40,513
Lead (Secondary)	Tonne	14,020	5,344 ²	4,481 ²	3,788 ²	—	—	—
Zinc (Ingots)	Tonne	1,49,312	1,42,078	1,40,422	1,64,593	1,72,982	1,74,957	1,97,015

¹ Provisional² Indian Lead Limited

the overall growth of the gross domestic product as well as in terms of employment generation and export. The performance of small scale sector from 1995-96 to 1999-2000 is given in table 20.5.

SSI has shown higher growth rate than the industrial sector as a whole with almost 40 per cent of the industrial production as a whole and almost 35 per cent of direct export. The sector has emerged as an engine of growth for the new millennium. The Government has initiated a number of support measures including policy of reservation, revision of investment ceilings, modernisation, technology upgradation, marketing assistance, etc. In the changed liberalised and competitive economic environment, a number of steps including partial dereservation, change in investment limits, facilitating foreign participation, establishment of growth centres, export promotion, marketing assistance and incentives for quality improvement, assisting the SSI units in regard to implementation of WTO agreements/globalisation, etc., have been taken for strengthening this sector.

The Ministry is to meet the requirements of the tiny and micro-enterprises constituting over 95 per cent of the total SSI units in the country.

COMPREHENSIVE POLICY PACKAGE

The ongoing economic reforms based on liberalisation, globalisation and privatisation and the changes at the international economic scene including the emergence of World Trade Organisation (WTO), have brought certain challenges and several new opportunities before the SSI sector. Accordingly, a new Ministry of Small Scale Industries and Agro and Rural Industries was created in October 1999. A Group of Ministers constituted in June 2000 considered the recommendations of the interim report of the S.P. Gupta Study Team constituted by the Planning Commission and came out with a Comprehensive policy package for the small scale and tiny sector.

Small Scale Sector : The investment limit for the SSI sector will continue to be at Rs one crore. The Ministry of SSI will bring out a specific list of hi-tech and export-oriented industries which would require the investment limit to be raised up to Rs five crore to admit of suitable technology upgradation and enable them to maintain their competitive edge. The exemption for excise duty limit for small scale sector has been raised from Rs 50 lakh to Rs one crore. The composite loans limit has been raised from Rs 10 lakh to Rs 25 lakh. The eligibility limit for coverage under the Credit Guarantee Scheme has been revised to Rs 25 lakh from Rs 10 lakh. The Integrated Infrastructure Development (IID) Scheme has been made to cover all areas with 50 per cent reservation for rural areas in the country. The Ministry will draw up a scheme for upgrading the industrial estates, which are languishing, for consideration of the Planning Commission. The funds available under the non-lapsable pool for the north-east will be used for setting up of incubation centres, for cluster development and for setting up of IIDs in the north-east including Sikkim. To encourage total quality management, the scheme of granting Rs 75,000 to each unit for opting ISO 9000 certification will continue till the end of the Tenth Plan. SIDO will have a Market Development Assistance (MDA)

Programme, similar to that of the Ministry of Commerce. It will be a Plan Scheme. To support the handloom sector, Deendayal *Hathkargha Protsahan Yojana* has been announced. The scheme with a total financial implication of Rs 447 crore will provide financial and infrastructural support to the weavers.

Tiny Sector : The investment limit for the Tiny Sector will continue to be Rs 25 lakh. Under the Prime Minister's *Rozgar Yojana*, the family income eligibility limit of Rs 24,000 has been revised to Rs 40,000 per annum. The Nayak Committee's recommendations regarding provision of 20 per cent of the projected turnover as working capital is being recommended to financial institutions and banks. In respect of tiny units also 20 per cent of the projected annual turnover would qualify for working capital loan. The IID Scheme will progressively cover all areas in the country with 50 per cent reservation for rural areas. Under the Scheme 50 per cent of the plots will be earmarked for the tiny sector.

Under the National Programme for Rural Industrialisation, cluster development is being taken up by KVIC, SIDO, SIDBI and NABARD. The major beneficiaries of cluster development programme will be tiny sector units. The sponsoring organisation for each cluster will provide for design development, capacity building, technology intervention and consortium marketing. A cluster development fund will be created under the Plan.

TABLE 20.5 : PERFORMANCE OF SMALL SCALE SECTOR

Year	Units (in lakh)	Production (at current prices)	(Rs crore) (at 1990-91 prices)	Employ- ment (in lakh)	Exports (Rs crore) (at current prices)
1995-96	27.24	3,56,213	2,22,162	152.61	36,470
1996-97	28.57	4,12,636	2,47,311	160.00	39,249
1997-98	30.14	4,65,171	2,68,159	167.20	43,946
1998-99	31.21	5,27,515	2,88,807	171.58	48,979
1999-2000	32.12	5,72,887	4,16,736	178.00	54,200
2000-2001 ¹	33.70	6,45,496	4,50,400	185.64	59,978

¹ Estimated

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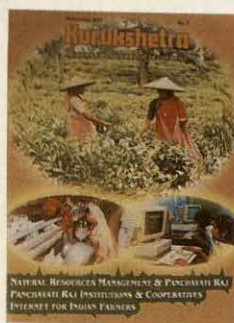
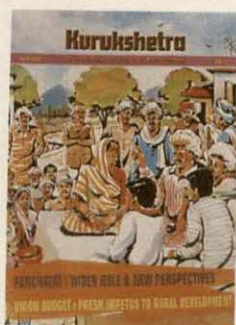
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21 Commerce

FOREIGN trade has played a crucial role in India's economic development. India's exports cover a wide range of items in the agricultural and industrial sectors as also handloom, cottage and handicraft articles. Project exports which include consultancy, civil construction and turn key contracts have also made a significant progress in the recent years. Computer software exports have also increased significantly. Imports have increased substantially, bulk of which comprise items like petroleum and petroleum products, fertilizers, precious and semi-precious stones for export production and capital goods, raw materials, consumables and intermediates for industrial production and technological upgradation.

TRADE SCENARIO

In the year 1950-51 India's total external trade (exports plus imports including re-exports) stood at Rs 1,214 crore. Since then, this has witnessed continuous increase with occasional downturns. During 2000-01 the value of India's external trade reached Rs 4,29,246 crore. Import, export, total value of foreign trade and balance of trade from the year 1990-91 to 2000-01 is given in table 21.1.

TABLE 21.1 : FOREIGN TRADE IN INDIA

(Rs in crore)

Year	Exports	Imports	Total value of foreign trade	Balance of trade
1990-91	32,557.63	43,192.86	75,750.49	-10,635.23
1991-92	44,041.81	47,850.84	91,892.65	-3,809.03
1992-93	53,688.25	63,374.52	1,17,062.77	-9,686.27
1993-94	69,751.39	73,101.01	1,42,852.40	-3,349.62
1994-95	82,674.11	89,970.66	1,72,644.77	-7,296.55
1995-96	1,06,353.34	1,22,678.14	2,29,031.48	-16,324.80
1996-97	1,18,817.08	1,38,919.68	2,57,736.76	-20,102.60
1997-98	1,30,100.64	1,54,176.30	2,84,276.94	-24,075.66
1998-99	1,39,753.14	1,78,331.85	3,18,084.99	-38,578.71
1999-2000	1,59,561.00	2,15,528.00	3,75,089.00	-55,967.00
2000-01	2,01,674.00	2,27,512.00	4,29,246.00	-25,898.00

During 2000-01 India's total exports amounted to Rs 2,01,674 crore as compared to Rs 1,59,561 crore during 1999-2000, registering a growth of 26.4 per cent. In dollar terms the growth rate was 19.83 per cent. At the same

time, imports increased from Rs 2,15,528 crore in 1999-2000 to Rs 2,27,572 crore during 2000-01 thereby registering a growth of 5.6 per cent. In dollar terms imports increased by 8.3 per cent. In rupee terms the trade deficit in 2000-01 was Rs (-) 25,898 crore against Rs (-) 55,967 crore during 1999-2000.

India has trading relations with all the major trading blocks and all the geographical regions of the world. Region-wise and sub-regionwise spread of our trade during 1999-2000 and 2000-01 is given in table 21.2. Asia and Oceania accounted for 37.48 per cent of India's total exports, followed by West Europe (25.35 per cent) and America (24.73 per cent) during 2000-2001. India's imports were highest from Asia and Oceania (27.50 per cent) followed by West Europe (27.09 per cent) and America (7.88 per cent), during the same period.

TABLE 21.2 : DIRECTION OF INDIA'S FOREIGN TRADE

(Rs in crore)

Region/Sub-Region	Export		Imports	
	1999-2000	2000-2001	1999-2000	2000-2001
West Europe	43,310.79	51,333.49	59,446.65	61,431.15
European Common Market	39,257.55	45,900.58	45,635.55	44,730.07
European Free Trade Area Countries	2,952.46	3,744.04	13,383.03	16,694.76
Rest of Europe	1,100.78	1,688.87	428.07	6.32
Asia and Oceania	60,062.93	75,899.96	1,01,925.92	62,357.44
Africa	8,167.98	10,723.46	28,648.91	9,333.86
America	41,737.03	50,081.68	21,139.26	17,872.69
North America	38,833.70	45,378.36	17,092.42	14,576.17
South America	1,669.98	2,749.41	3,594.77	2,936.39
Other America	1,233.35	1,953.90	452.07	360.13
East Europe	5,605.78	5,978.98	4,275.65	3,854.75

EXPORTS

Exports have shown an increasing trend and diversification of its base over the years. While there are year-to-year variations, the commodities whose exports have been increasing over the last few years include, marine products, ores and minerals, electronics, gems and jewellery, chemical and allied products, engineering goods, textiles and handicrafts. During 2000-01 negative growth in exports have been witnessed in respect of items like plantations, carpets and project goods. Exports of principal commodities during 2000-01 as compared to the corresponding period of previous year are shown in table 21.3.

TABLE 21.3 : EXPORT OF PRINCIPAL COMMODITIES

Commodities	(Rs in crore)		
	1999-2000	2000-2001	Percentage change
Plantations	3,219.52	3,164.57	(-)1.71
Agricultural and allied products	15,880.01	17,666.38	11.25
Marine products	5,124.56	6,368.37	24.27
Ores and Minerals	3,969.78	5,290.12	33.26
Leather and manufactures	6,890.87	8,915.23	29.38
Sports goods	290.16	314.66	8.45
Gems & Jewellery	32,509.43	33,760.71	3.85
Chemical and related products	21,285.75	28,249.86	32.72
Engineering goods	19,005.78	26,111.62	37.39
Electronics hardware	3,148.89	5,112.63	62.36
Project goods	170.68	123.42	(-)27.69
Textiles	39,733.22	49,318.18	24.12
Handicrafts	2,897.37	3,053.09	5.37
Carpets	2,795.36	2,656.03	(-)4.96
Petroleum products	129.91	8,309.97	6,296.71
Unclassified exports	1,966.86	3,870.15	96.77

IMPORTS

Imports are made to meet the essential requirements of domestic consumption, investment, production and inputs for exports. Bulk imports as a group registered a growth of 11.50 per cent during 2000-01 and accounted for 41.99 per cent of the total imports. This group includes fertilizers, cereals, edible oils, newsprint and petroleum products. The other principal imports consist of pearls, precious and semi-precious stones, machinery, project goods, medicinal and pharmaceutical products, organic and inorganic chemicals, coal, coke and briquettes, artificial resins, etc. The details of imports of principal commodities during 1999-2000 and 2000-01 are given in table 21.4.

TABLE 21.4 : IMPORT OF PRINCIPAL COMMODITIES

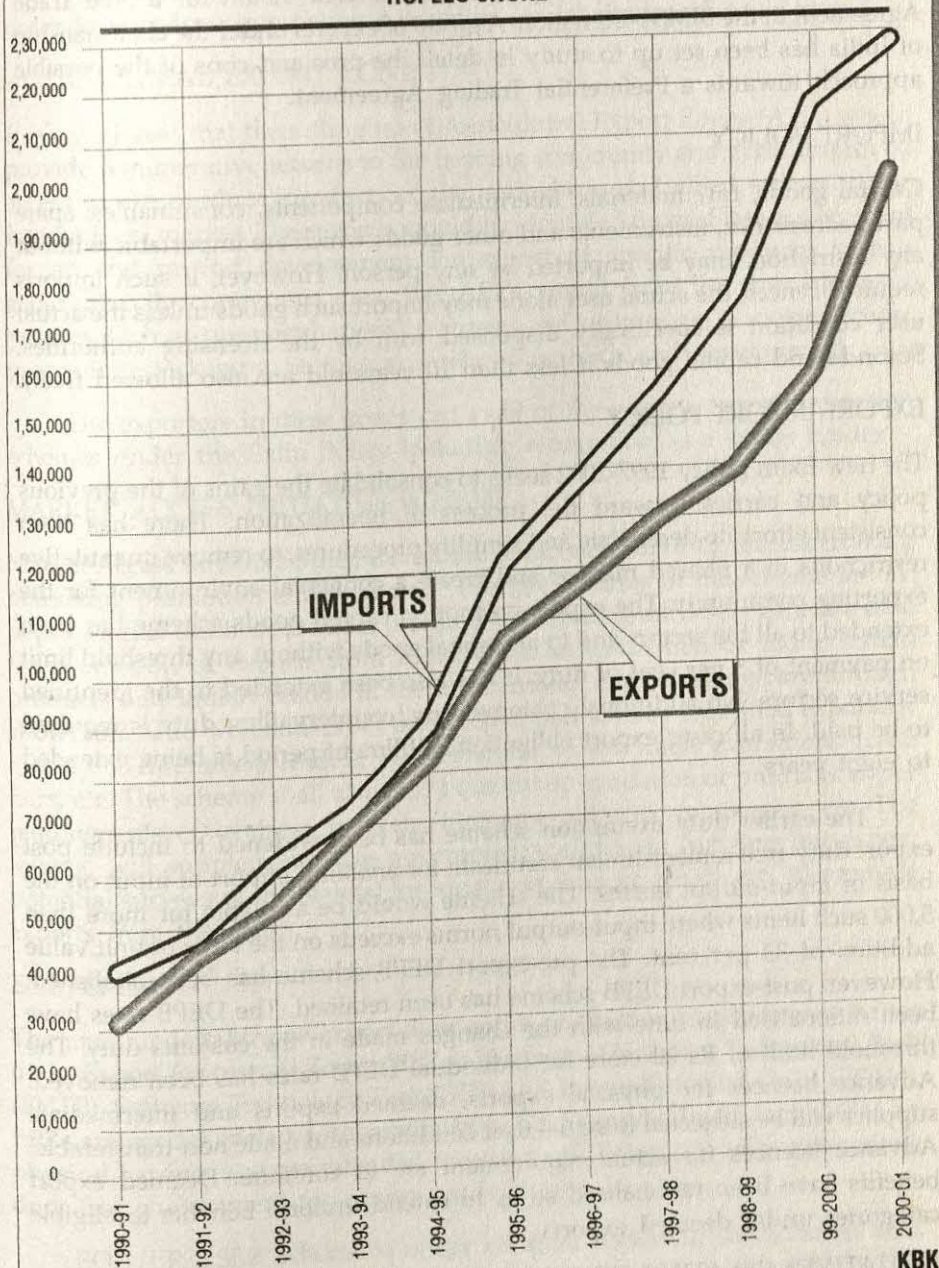
Commodities	1999-2000	2000-01	(Rs in crore)
			Percentage change
A. Bulk Imports	85,400.34	95,224.84	11.50
i) Cereals	961.50	85.17	(-)91.14
ii) Fertilizers	6,062.74	3,407.41	(-)43.80
iii) Newsprint	960.07	1,189.48	23.89
iv) Petroleum Crude & Petroleum Products	54,648.60	71,496.52	30.83
v) Edible Oil	8,046.05	5,932.76	(-)26.27
vi) Pulp and waste paper	1,105.64	1,274.40	13.26
vii) Non-Ferrous metals	2,369.84	2,404.41	1.46
B. Pearls precious and Semi-precious Stone	23,555.78	21,966.90	(-)6.74
C. Machinery	19,850.05	18,675.59	(-)4.92
D. Project Goods	4,272.61	2,901.28	(-)32.10
E. Others of which:	82,449.75	88,004.87	6.74
i) Organic and Inorganic chemicals	12,420.28	11,139.87	(-)10.31
ii) Coal, coke and briquettes	4,368.36	5,039.99	15.37
iii) Medicinal and pharmaceutical products	1,616.22	1,701.47	5.27
iv) Artificial resins, etc.	3,117.68	2,529.36	(-)18.87

EXPORT PROMOTION MEASURES

Export promotion being a constant endeavour of the Government, export progress is constantly monitored and export strategy and export policies are formulated. Steps taken to enhance the export growth include reduction in transaction costs through decentralisation, simplification of procedures and various measures as enumerated in the Exim Policy. Steps have also been taken to promote exports through multilateral and bilateral initiatives, identification of thrust sectors and focus regions. Special Economic Zones are being set up to further boost the exports. Besides these, the measures announced in the new Exim Policy 2001-2002 *inter alia* include promotion of agricultural exports, market access initiative, setting up business cum trade facilitation centre and trade portal, strengthening of the Advance Licensing Scheme, Duty Free Replenishment Certificate (DFRC), Duty Entitlement Pass Book Scheme (DEPB), etc.

INDIA'S FOREIGN TRADE

RUPEES CRORE



Source: DGCI & S, Kolkata

KBK

A Free Trade Agreement (FTA) signed between India and Sri Lanka in 1998 became operational in March 2000. Bangladesh-India-Myanmar-Sri Lanka-Thailand-Economic Cooperation (BIMST-EC) is also gaining momentum. In its meeting held in April 2000 in New Delhi it was decided to establish a clear work programme to implement the shared vision for a Free Trade Agreement in the BIMST-EC region. A group of experts under the chairmanship of India has been set up to study in detail the pros and cons of the possible approach towards a Preferential Trading Agreement.

IMPORT POLICY

Capital goods, raw materials, intermediate components, consumables, spare parts, accessories, instruments and other goods which are importable without any restriction, may be imported by any person. However, if such imports require licences, the actual user alone may import such goods unless the actual user condition is specifically dispensed with by the licensing authorities. Second-hand capital goods if less than 10 years old are also allowed freely.

EXPORT-IMPORT POLICY

The new Exim policy 1997-2002 seeks to consolidate the gains of the previous policy and carries forward the process of liberalization. There has been consistent efforts to deregulate and simplify procedures, to remove quantitative restrictions in a phased manner and create a congenial environment for the exporting community. The export promotion capital goods scheme has been extended to all the sectors and to all capital goods without any threshold limit on payment of 5 per cent of duty. It has also been extended to the identified service sectors. No additional customs duty/countervailing duty is required to be paid. In all cases export obligation fulfillment period is being extended to eight years.

The earlier duty exemption scheme has been widened to include post export duty-free replenishment certificate for enabling import of input on the basis of input-output norms. The scheme would be available for more than 5,000 such items where input-output norms exceeds on the basis of unit value addition of 33 per cent. The pre-export DEPB scheme has been abolished. However, post-export DEPB scheme has been retained. The DEPB rates have been rationalised in tune with the changes made in the customs duty. The threshold limit of Rs 20 crore for individual DEPB rates has been removed. Advance licences for physical exports, deemed exports and intermediate supplies will be subjected to actual user conditions and made non-transferable. Advance licences for actual requirement are to continue. Deemed export benefits have been rationalised so as to extend uniform benefits to eligible categories under deemed exports.

INITIATIVES RELATING TO E-COMMERCE

Electronic filing of licensing application has been introduced to speed up the export-import related transactions and to bring about transparency in the

working of DGFT organisation. Further, with the proposed introduction of electronic data interchange with the other Government organisations, the transaction time and cost shall get reduced substantially.

Bar Coding of packaged export products is also being encouraged in order to introduce international practices for labelling and packaging.

AGRICULTURAL EXPORT ZONES

It is envisioned that the setting up of Agricultural Export Zones (AEZ) would provide remunerative returns to the farming community and grant improved access to the produce/products of the agriculture and allied sectors in the international market. These zones would be identified by the State government for an end to end development for export of specific products from a geographically contiguous area. The AEZs would have the state-of-the-art services such as pre-post harvest treatment and operations, plant protection, processing, packaging, storage and related research and development.

The exporters in these zones can avail of the various export promotion schemes under the Exim Policy including recognition as a status holder.

MARKET ACCESS INITIATIVE SCHEME

Market Access Initiative Scheme has been launched in 2001-02 for undertaking marketing promotion efforts abroad. The key features of the scheme are in-depth Market Studies for select products in chosen countries to generate data for promotion of exports from India, assist in promotion of India, Indian products and Indian brands in the international market by display through showrooms and warehouses set up in rental premises by identified exporters, display in identified leading departmental stores/trade exhibitions/trade fairs, etc. The scheme shall also assist quality up-gradation of products as per requirements of overseas markets, intensive publicity campaigns, etc. The scheme will supplement State government's efforts in carrying out export potential surveys of the State(s) for identified product group, etc., to promote exports from the States.

EOU/EPZ/EHTP/STP

The units undertaking to export their entire production of goods may be set up at Export Processing Zones (EPZs), Electronic Hardware Technology Park (EHTP), Software Technology Park (STP) and Export Oriented Units (EOUs). EPZs are special enclaves, separated from the Domestic Tariff Area (DTA) by physical barriers and are intended to provide an internationally competitive duty free environment for export production at low cost.

EOU/EPZ/SEZ Scheme is under constant review in consultation with the trade and industry and improvements are brought about as necessary. Some of the improvements introduced in the Exim Policy with effect from 1 April 2001 include : (i) Positive Net Foreign Exchange earning as a percentage of exports has been introduced for EOU/EPZ units having capital

investment above Rs five crore; (ii) EOU/EPZ/EHTP/STP units having investment of Rs five crore and above in plant and machinery to be treated as star units; (iii) granite sector has been given the facility of taking out duty free capital goods to quarries; (iv) subcontracting facility permitted for all sectors along with brand rate of duty draw back for DTA exporters undertaking exports through EOU/EPZ units; (v) joint monitoring of EOU/EPZ units by Customs and Development Commissioner; (vi) amortisation of capital goods over eight years instead of five years for star EOU/EPZ units; (vii) import/procurement of raw materials without payment of duty for making capital goods by EOU/EPZ units at site; (viii) the scope of items permitted for import by EOU/EPZ units enlarged to cover all items including storage system, UPS, anti-static carpets, security systems, modular furniture, etc.; (ix) decentralisation and delegation of greater powers to Development Commissioners; and (x) Evolving of suitable procedure for conversion of DTA units into EOU having outstanding export obligation under Advance Licensing Scheme.

The export from EPZ/SEZ units during 2000-2001 is of the order of Rs 8,552.30 crore which is 27.49 per cent higher than the export achieved last year.

EXPORT PROCESSING ZONES/SPECIAL ECONOMIC ZONES

The Government of India has set up seven Export Processing Zones (EPZs)/Special Economic Zones (SEZs) at Kandla (Gujarat), Santa Cruz, Mumbai (Maharashtra), Noida (UP), Chennai (Tamil Nadu), Cochin (Kerala), Falta (West Bengal) and Visakhapatnam (Andhra Pradesh).

The Government of India has issued notifications on 1 November 2000 for conversion of the existing Export Processing Zones at Kandla, Santa Cruz, Mumbai and Cochin into Special Economic Zones. Each zone provides basic infrastructure facilities in addition to a whole range of fiscal incentives. Customs clearance facilities are offered within the zone.

EXPORT PROMOTION INDUSTRIAL PARK

A Centrally-sponsored Export Promotion Industrial Parks (EPIPs) Scheme has been introduced in August 1994 for involving the State governments in the creation of infrastructure facilities for export-oriented production. So far 25 proposals for establishment of EPIPs have been sanctioned of which 11 parks have been completed.

SPECIAL ECONOMIC ZONES

Special Economic Zones (SEZs) are to be set up in order to facilitate hassle-free manufacturing and trading activities for the purpose of exports. The units in these zones shall not be subjected to any pre-determined value addition, export obligation, input output norms. They shall be treated as being outside

customs territory. Sale in Domestic Tariff Area by the units in these zones will be permitted only on payment of full customs duty.

COMMERCIAL RELATIONS

The commercial offices attached to India play a vital role in the promotion of India's foreign trade and economic relations. The commercial representatives assist the Government in the formulation of its trade and economic policies through regular feed-back on market trends, trade promotion prospects and the general economic situation of the country to which they are accredited.

EAST ASIA

During the year 2000-01 India's trade with countries in ASEAN and East Asia region at US \$ 8,580.11 million registered a decline of about 4.69 per cent over the previous year. India's exports to this region at US \$ 3,384.19 million during this period registered a growth of 24.37 per cent over the year 1999-2000. The decline in trade is attributed to a negative growth of 17.28 per cent in imports from the countries in the region.

The principal commodities of India's exports to this region include oil meals, gem and jewellery, electronic goods, cotton/fabrics, made ups, machinery and instruments, primary and semi-finished iron and steel, drugs and pharmaceuticals, meat and meat products, marine products, etc. The major commodities imported from this region are cola/coke, machinery except electrical machinery, wood and wood products, non-ferrous metals, raw wool, pulses, electrical machinery, etc.

India has trade agreements with the major trading countries in this region, viz., Malaysia, Indonesia, Thailand, Philippines, Socialist Republic of Vietnam, New Zealand, Australia, Myanmar, Cambodia and Lao PDR. In addition, India has also a Border Trade Agreement with Myanmar providing for border trade of certain specified commodities.

Having become Full Dialogue Partner with ASEAN, an ASEAN-India Working Group on Trade and Investment has been established under the aegis of the ASEAN-India Joint Cooperation Committee to give a major fillip to India's relationship with ASEAN in trade and investment which are major areas of focused cooperation with ASEAN.

AFRICA

Sub-Saharan African region accounts for less than 3.6 per cent (approximately) of the world trade. India's trade in the region is largely with South Africa, Nigeria, Mauritius, Ivory Coast, Tanzania, Kenya, Benin, Ghana, Ethiopia and Senegal. These countries accounted for more than 81 per cent of India's total trade with sub-Saharan Africa during 2000-01. India's exports to sub-Saharan Africa constitute 4.08 per cent (approx.) of the total global exports of India during 2000-2001. India's exports to the region have increased considerably within a span of four years from US\$ 1,345.06 Mn in 1996-97 to US\$ 1,808.93 Mn in 2000-2001, registering a growth of 34.48 per cent.

Major items of exports include : (a) Cotton yarn, fabrics, made-ups, etc., (b) drugs, pharmaceuticals and fine chemicals, (c) manufactures of metals, (d) machinery and instruments, (e) man-made yarn, fabrics, made-ups, (f) transport equipment, (g) primary and semi finished iron and steel, (h) RMG cotton including accessories (i) plastic and linoleum products, and (j) inorganic/organic/agro chemicals.

Initiatives taken to promote bilateral cooperation : India have signed trade agreement with Burkina Faso, Ethiopia, Ghana, Angola, Cameroon, Ivory Coast, Kenya, Liberia, Mozambique, Namibia, Nigeria, Rwanda, Senegal, South Africa, Uganda, Zambia, Zimbabwe, Seychelles, Tanzania, Mauritius and Botswana. During the last two years India has signed three trade agreements with Tanzania, Mauritius and Botswana. Two Joint Trade Committee Meetings providing for discussions on issues relating to trade and co-operation in specific sectors were held with Zambia and Ethiopia in November 2000 and March 2001 in New Delhi.

CIS COUNTRIES AND BALTIC STATES

This region comprises of 15 countries, namely, Russia, Ukraine, Armenia, Azerbaijan, Georgia, Belarus, Moldova, Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Turkmenistan, Latvia, Lithuania and Estonia. Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan are known as Central Asian Republics and Latvia, Lithuania and Estonia are known as Baltic States.

India's trade with erstwhile Soviet Union in 1990-91 was Rs 7,803 crore while in 1999-2000 the total trade between India and the countries of this region was Rs 8,249 crore. In the year 2000-01 the total trade stands at Rs 8,061 crore. Indo-Russian bilateral trade accounts for around 80 per cent of India's total trade with countries of this region.

WEST EUROPE

West Europe is the major trading partner accounting for about 25 per cent of India's total exports and 27 per cent of India's total imports in 2000-01. It comprises countries of the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and UK), European Free Trade Association (EFTA) countries (Norway, Switzerland, Iceland and Liechtenstein) in addition to Turkey, Malta and Cyprus. A major part of India's total exports to West European region is accounted for by eight countries, viz., Germany, UK, Belgium, Italy, France, Netherlands, Spain and Switzerland. Hence there is great potential for increasing our exports to the other countries of this region. The main items of our exports to West Europe comprise gems and jewellery, cotton and manmade yarn/fabrics/made-ups/ready made garments, machinery and instruments, drugs pharmaceuticals and fine chemicals, manufactures of metals, leather garments/goods/footwear, organic/inorganic/agro chemicals, transport equipments, dyes and intermediates, handicrafts, marine products, electronic goods, plastic and linoleum products, carpets, etc. The main items

of our imports from West Europe comprise pearls, precious and semi-precious stones, gold, silver, machinery, electronic goods, project goods, organic chemicals, professional instruments, transport equipments, iron and steel, medicinal and pharmaceutical products, metaliferous ores and metal scrap, manufactures of metals, chemical material and products, etc. During 2000-01, EU countries accounted for nearly 23 per cent of exports and 21 per cent of imports of India's global trade. While efforts are being made to expand India's trade with EU member countries, there are certain hurdles posed by EU in the shape of anti-dumping/anti-subsidy investigations leading to imposition of countervailing duties and other trade barriers put in place, obstructing market access. The Second India-EU Summit is scheduled to be held in New Delhi in November 2001. The First India-EU Summit was held in Lisbon in June 2000.

CENTRAL AND EAST EUROPEAN COUNTRIES

India has traditionally enjoyed close and multi-faceted relations with most of the countries of Central and Eastern Europe. East European countries comprise of Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovak Republic, Slovenia, Macedonia and Federal Republic of Yugoslavia. The transition from centrally-planned, socialist economies to market-oriented economies, collapse of old trading arrangements, severe liquidity constraints in these countries, fragmentation of retail markets, high interest rates which discourage long distance trading on L/c basis, an increase in demand for sophisticated packaging and quality goods, competition from other countries/regions like China, Turkey and European Union and image problems of Indian goods, were responsible for decline in bilateral trade between India and Eastern and Central European countries.

The total trade which was around US\$ 776.73 million during 1990-91 decreased to US\$ 387.88 million in 2000-01. In 2000-2001 the exports from India to Central and East European countries have increased from US\$ 202.78 million in 1999-2000 to US\$ 225.93 million and imports have declined from US \$ 173.83 million in 1999-2000 to US\$ 161.95 million in 2000-2001. The main items of export from India to East Europe are cotton yarn, fabrics, made-up sets, RMG cotton including accessories, drugs, pharmaceuticals and fine chemicals, coffee, tea, transport equipment, manufacture of metals, etc. The main items of our imports from the area are machinery except electric and electronic, organic chemicals, electronic goods, project goods, medicinal and pharmaceutical products, iron and steel, transport equipments, etc.

In terms of total trade turnover with the East European countries, Poland continues to occupy the top position in total trade turn over, followed by Czech Republic and Hungary respectively.

SOUTH AMERICA

India's exports to South America and Caribbean region were of the order of US \$ 652.46 million and India's imports from this region were of the order of US \$ 936.74 million during 1999-2000. During 2000-2001 India's exports

to this region at US \$ 981.79 million have registered a growth of 50.47 per cent and the imports from the region at US \$ 724.01 million have registered a growth of about (-)22.70 per cent, over the corresponding period of the previous year. Despite various constraints, India's exports to the region have shown a healthy rate of growth in the recent years. This is largely the result of trade and industry responding to the lowering of tariffs and non-tariff barriers in many of the Latin American countries and special thrust of the Government through the FOCUS:LAC Programme to enhance trade with this region. Argentina, Brazil, Chile, Peru, Mexico, Panama, Colombia, Venezuela and Uruguay are India's major export markets in the region. Exports to the region include textiles and readymade garments, drugs and pharmaceuticals, engineering goods, two-wheelers, automotive components, diesel engines, hand-tools, leather and leather manufactures, dyes, intermediates, etc. Our imports from the region include crude minerals, iron and steel and their products, non-ferrous metals, metaliferrous ores, vegetables oils, pulp and paper waste, raw wool, etc.

UNITED STATES OF AMERICA, CANADA AND MEXICO

India's trade trend with United States of America (USA), Canada and Mexico, the signatory countries to the North America Free Trade Agreement (NAFTA) is summarised below.

The United States is India's largest single trading partner. During 2000-2001, India's export to USA at Rs 42,403.73 crore have registered a growth of 16.72 per cent whereas the imports from USA at Rs 12,812.11 crore have declined by 17.04 per cent over the corresponding period of the previous year. India's major exports to US include gems and jewellery, RMG cotton including accessories, cotton yarn, fabric, made-ups, manufactures of metals, RMG manmade fibres, handicrafts (excluding handmade carpet), etc. Major imports from US include electronic goods, machinery except electronic, other commodities, professional instruments, etc., except electronic, organic chemicals, pearls, precious and semi-precious stone, etc.

Indian trade with Canada is very modest. During 2000-2001, India's export to Canada at Rs 2,974.63 crore registered a growth of 18.74 per cent over the export of Rs 2,505.07 crore in the corresponding period of the previous year. The imports from Canada during 2000-2001 were of the order of Rs 1,764.06 crore and registered a growth of 6.99 per cent over the import of Rs 1,648.84 crore in the corresponding period of the previous year. India's major exports to Canada include RMG cotton including accessories, cotton yarn, fabrics, made-ups, etc., primary and semi-finished iron and steel, drugs, pharmaceuticals and fine chemicals, RMG manmade fibres, gems and jewellery. Major imports from Canada include newsprint, pulp and waste paper machinery except electronics, pulses, non-ferrous metals and electronic goods.

Indian trade with Mexico has grown consistently at a good pace over the years. During 2000-2001, India's exports to Mexico at Rs 944.57 crore registered a growth of 54.72 per cent over the exports of Rs 610.50 crore in

the corresponding period of the previous year. The imports from Mexico during 2000-2001 were of the order of Rs 219.36 crore and registered a negative growth of 47.53 per cent over the import of Rs 418.11 crore in the corresponding period of the previous year. India's major exports to Mexico include RMG cotton including accessories, drugs, pharmaceuticals and fine chemicals, transport equipments, machinery and instruments, inorganic/organic/agro chemicals and spices. Major imports from Mexico include fertilizer, manufactured electronic goods, metaliferous ores and metal scrap, other commodities, medicinal and pharmaceutical products and pulses.

WEST AFRICA AND NORTH AFRICA

During 1999-2000, exports from India to West Asian and North African (WANA) countries were US \$ 4.540 billion and imports were US\$ 11.587 billion. During 2000-01, exports to this region from India amounted to US \$ 5.580 billion and non-oil imports from this region amounted to US\$ 3.059 billion. The balance of trade has not been in favour of India because of import of large quantities of crude oil from this region. This region is also an important source of supply of some important agricultural and industrial inputs required in India, viz., fertilizers, rock phosphate, etc. It holds considerable promise for the growth of India's exports, particularly in processed foods, drugs and pharmaceuticals and gems and jewellery sector. India has trade agreements with Egypt, Iraq, Iran, Jordan, Kuwait, Libya, Algeria, Yemen, Israel, Saudi Arabia, Bahrain, Sudan, Morocco, Syria and Tunisia. India is also having joint commissions with some of these countries for devising measures for improving and diversifying trade flows. Pharmaceuticals and Information Technology (IT) are the sectors that hold promise for growth in exports to this region.

JOINT VENTURES

Proposals from Indian companies for overseas direct investment in joint ventures and wholly owned subsidiaries are considered in the Reserve Bank of India, Central Office, Mumbai. The investment approved by the RBI are well diversified in terms of their destination countries. Approvals have been given to set up a large number of trading concerns meant for promoting India's exports in the field of textiles and garments, besides marine products, leather and electrical goods. In the manufacturing sector, approvals have been given for different sectors such as iron and steel, drugs and pharmaceuticals, yarn and textiles, garments, cement and sugar. A number of approvals have been given for setting up units in the field of computer software.

PUBLIC SECTOR AGENCIES

The Minerals and Metals Trading Corporation of India Limited (MMTC), established in 1963, occupies a prominent position in India's foreign trade. Export of iron, manganese and chrome ores, and among finished fertilizers, only import of urea is canalised. It continues to be the largest non-oil importer of the country and has made considerable headway in increasing its imports.

It has also emerged as the largest bullion trade in the sub-continent, importing and selling the largest quantity of gold and silver.

The Mica Trade Corporation of India Limited (MITCO) was incorporated in 1973 as a wholly owned subsidiary of MMTC to look after the business of mica exclusively. Due to the steady decline in turnover which had turned negative, BIFR ordered merger of MITCO with NMTC from 1 April 1995.

State Trade Corporation of India Limited is a premier international trading company owned by the Government of India. Set up in 1956, it undertakes export, import and domestic trade in a number of items in competition with the private trade and industry. It also imports many mass consumption items entrusted to it by the Government of India in view of domestic shortages.

Project and Equipment Corporation of India Limited (PEC) is a public sector enterprise under the Ministry of Commerce. From being a canalising agency for the export of Railway Rolling Stock, PEC has established itself as a leading exporter of semi-turnkey projects and engineering equipment. More recently, it has also diversified itself into other trading activities such as third-country trade, commodity exports and imports of raw material to support export activities of associate manufacturers.

Export Credit Guarantee Corporation Limited was originally set up as Export Risk Insurance Corporation in July 1957. It was transformed into Export Credit and Guarantee limited in 1964. In December 1983, it was renamed as Export Credit Guarantee Corporation of India Limited. The primary objective of the Corporation is to promote exports from India by providing export credit insurances and guarantee facilities to the Indian exporters and commercial banks.

Spices Trading Corporation Limited, formerly known as Cardamom Trading Corporation Limited was incorporated under the Companies Act, 1956 in October 1982, but the actual trading activities commenced from September 1983. The main objectives of Corporation are: to carry on domestic and international trade in spices and its products; to process and cure spices and manufacture its products; to support, project, maintain, increase and promote the production of its products and to promote research and development of spices and its products.

AUTONOMOUS BODIES

There are a number of autonomous bodies under the Department of Commerce connected with the development of exports and export promotion activities.

There are five statutory Commodity Boards responsible for the production, development and export of tea, coffee, rubber, spices and tobacco. Export

Inspection Council, Delhi a statutory body, is responsible for enforcement of quality control and compulsory pre-shipment inspection of various exportable commodities.

Indian Institute of Foreign Trade, New Delhi, a registered body, is engaged in the training of personnel in modern techniques of international trade; organisation of research in problems of foreign trade; organisation of marketing research, area surveys, commodity surveys; and dissemination of information arising from its activities relating to research and market studies.

Indian Institute of Packaging, Mumbai, a registered body set up on 14 May 1966, undertakes research on raw materials for packaging industries, organises training programmes on packaging technologies and stimulates consciousness on the need for good packing, etc.

There are at present 20 export promotion councils, out of which 11 are under the Ministry of Commerce. They are non-profit organisations registered under the Companies Act/Society Registration Act. They promote and develop the exports of the country. Each council is responsible for the promotion of a particular group of products, projects and services.

Agricultural and Processed Food Products Export Development Authority (APEDA), which came into existence in February 1986, acts as focal point for agricultural exports and concentrates on marketing of processed foods in value-added form. It also introduces effective quality-control measures.

Marine product Export Development Authority, Cochin, a statutory body set up in August 1972, is responsible for the development of marine products industry with special reference to exports.

Federation of India Export Organisation, New Delhi is an apex body of various export promotion organisations and institutions. It functions as primary servicing agency to provide integrated assistance to the Government recognised export houses and as a Central coordinating agency in respect of export promotional efforts in the field of consultancy services in the country.

Indian Council of Arbitration, New Delhi set up under the Societies Registration Act, promotes arbitration as a means of settling commercial disputes and popularising arbitration among traders, particularly those engaged in the international trade.

Trade Development Authority (TDA) has been merged with the Trade Fair Authority of India (TFAI) to form a new organisation under the name of India Trade Promotion Organisation (ITPO) in January 1992. The main objectives of the Organisation are to develop and promote exports, imports and upgradation of technology through the medium of fairs to be held in India and abroad; to undertake publicity through the print and electronic media, to assist Indian companies in meets, contact promotion programmes and integrated marketing programmes for specific products in specific markets.

National Centre for Trade Information (NCTI), a specialised organisation utilising modern methods of storage and collection of trade data was set up in March 1995. The objectives of this organisation are to establish linkages with export promotion bodies and collection, value-addition and dissemination of trade data among interested parties. It interacts with Indian missions abroad and overseas trade information bodies. It is the focal trade point in India and promotes international trade through E-Commerce.

22 Transport

A well-knit and coordinated system of transport plays an important role in the sustained economic growth of the country. The present transport system of the country comprises several modes of transport including rail, road, coastal shipping, air transport, etc. Transport has recorded a substantial growth over the years both in spread of network and in output of the system. The Ministry of Surface Transport is responsible for the formulation and implementation of policies and programmes for the development of various modes of transport save the railways and the civil aviation.

RAILWAYS

The Railways in India provide the principal mode of transportation for freight and passengers. It brings together people from the farthest corners of the country and makes possible the conduct of business, sightseeing, pilgrimage and education. Indian Railways have been a great integrating force during the last 148 years. It has bound the economic life of the country and helped in accelerating the development of industry and agriculture. From a very modest beginning in 1853, when the first train steamed off from Mumbai to Thane, a distance of 34 km, Indian Railways have grown into a vast network of 6,867 stations spread over a route length of 62,759 km with a fleet of 7,517 locomotives, 36,510 passenger service vehicles, 4,838 other coaching vehicles and 2,44,419 wagons as on 31 March 2000. The growth of Indian Railways in the 148 years of its existence is thus phenomenal. It has played a vital role in the economic, industrial and social development of the country. The network runs multigauge operations extending over 62,759 route kilometre. The gauge-wise route and track lengths of the system as on 31 March 2000 were as under:

Gauge	Route km	Running track km	Total track km
Broad Gauge (1,676 mm)	44,383	62,441	85,532
Metre Gauge (1,000 mm)	15,013	15,411	18,674
Narrow Gauge (762 mm and 610 mm)	3,363	3,400	3,763
Total	62,759	81,252	1,07,969

About 23 per cent of the route kilometre, 33 per cent of running track kilometre and 32.5 per cent of total track kilometre is electrified. The network is divided into nine zones and further sub-divided into divisions. Divisions are the basic operating units. The nine zones and their respective headquarters as on 31 March 2000 are given below:

Zonal Railways	Headquarters
Central	Mumbai CST
Eastern	Kolkata
Northern	New Delhi
North Eastern	Gorakhpur
Northeast Frontier	Maligaon (Guwahati)
Southern	Chennai
South Central	Secunderabad
South Eastern	Kolkata
Western	Church Gate, Mumbai

Cooperation between public and railway administration is secured through various committees including Zonal Railway Users' Consultative Committees and Divisional Railway Users' Consultative Committees. The rolling stock fleet of Indian Railways in services as on 31 March 2000 comprised 56 steam, 4,651 diesel and 2,810 electric locomotives. Currently, the Railways are in the process of inducting new designs of fuel-efficient locomotives of higher horse power, high-speed coaches and modern bogies for freight traffic. Modern signalling like panel inter-locking, route relay inter-locking, centralised traffic control, automatic signalling and multi-aspect colour light signalling, are being progressively introduced to increase the throughput. Indian Railways have made impressive progress in indigenous production of rolling stock and a variety of other equipment over the years and is now self-sufficient in most of the items.

The main objectives of railways planning has been to develop the transport infrastructure to carry the projected quantum of traffic and meet the developmental needs of the economy. Since the inception of the planned era in 1950-51, Indian Railways have implemented eight five year Plans, apart from annual plans in some years. During eight Plans, emphasis was laid on a comprehensive programme of system modernisation. With capacity being stretched to the full, investment in cost-effective technological changes become inescapable in order to meet the ever-increasing demand for rail transport. Along with the major thrust directed towards rehabilitation of assets, technological changes and upgradation of standards were initiated in important areas of track, locomotives, passenger coaches, wagon bogie designs, signalling and telecommunication. Progress of Railway traffic and inputs is shown in table 22.1.

PUBLIC UNDERTAKINGS

There are five undertakings under the administrative control of the Ministry of Railways, *viz.*, (i) Rail India Technical & Economic Services Limited (RITES); (ii) Indian Railway Construction (IRCON) International Limited; (iii) Indian Railway Finance Corporation Limited (IRFC); (iv) Container Corporation of India Limited (CONCOR); and (v) Konkan Railway Corporation Limited

(KRC). Centre for Railway Information System (CRIS) was set up as a registered society to design and implement various railway computerisation projects.

RESEARCH AND DEVELOPMENT

The Research, Design and Standards Organisation (RDSO) at Lucknow is the R & D wing of Indian Railways. It functions as a consultant to the Indian Railways in technical matters. It also provides consultancy to other organisations connected with railway manufacture and design.

RAILWAY FINANCE

Since 1924-25, railway finances remain separated from general revenues. They have their own funds and accounts and the Railway Budget is presented separately to Parliament. However, the Railways contribute to the general revenue a dividend on the capital invested. Quantum of contribution is reviewed periodically by a Parliamentary Convention Committee.

ROLLING STOCK

Over the years Indian Railways have made concerted efforts to achieve self-sufficiency in production of rolling stock in the country. Locomotives are built in Chittaranjan Locomotive Works (CLW), Chittaranjan, Diesel Locomotive Works (DLW), Varanasi and BHEL, Bhopal, a public sector company which has developed capability to manufacture electric locomotives for the Indian Railways. In 1999-2000, CLW manufactured 120 broad-gauge electric locomotives, DLW produced 137 broad-gauge diesel locomotives (including five locos for public sector units). Diesel Component Works (DCW) has been set up by the Railways at Patiala for manufacturing and repairs of components of diesel locos and sub-assemblies. The project has attained the rated capacity for manufacture of components for diesel engines, its repairs and rebuilding of diesel locomotives. The bulk of passenger coaches are manufactured in Integral Coach Factory (ICF), Perambur, Chennai and Rail Coach Factory, Kapurthala. Integral Coach Factory (ICF), manufactured 1,006 fully furnished coaches and the Rail Coach Factory (RCF) set up at Kapurthala produced 1,182 coaches in 1999-2000. In addition to ICF and RCF, there are two more units in public sector, viz., M/s Jessops, Kolkata and Bharat Earth Movers Limited (BEML), Bangalore, which also manufacture coaches and electrical multiple units. A wheel and axle plant has been set up at Bangalore to cut down imports in this field. The plant performed excellently during 1999-2000 and helped the Railways to save valuable foreign exchange.

Railways production units are striving to develop new products for the Indian Railways. AC-3 Tier coach has been manufactured by RCF which would make AC travel cheaper and comfortable. Further, production of 5000 HP electric locomotives and fuel efficient diesel locomotives have also commenced at Chittaranjan Locomotive Works and Diesel Locomotive Works respectively. Diesel multiple units for suburban non-electrified routes and mainline electric multiple units for electrified sections have been manufactured by Integral Coach Factory, Chennai.

TABLE 22.1 : PROGRESS OF RAILWAYS TRAFFIC AND INPUTS

Year	Route Length (kilometre)		Running track (km)	Passengers originating (lakh)	Total goods originating (lakh tonne)	Number of locomotives		Number of Coaching vehicles	Number of wagons	
	Electrified	Non-Electrified				Steam	Diesel			Electric
1950-51	388	53,208	59,315	12,840	930	8,120	17	72	19,628	2,05,596
1960-61	748	55,499	63,602	15,940	1,562	10,312	181	131	28,439	3,07,907
1970-71	3,706	56,081	71,669	24,311	1,965	9,387	1,169	602	35,145	3,83,990
1980-81	5,345	55,895	61,240	36,125	2,200	7,469	2,403	1,036	38,333	4,00,946
1990-91	9,968	52,399	62,367	38,576	3,414	2,915	3,759	1,743	38,511	3,46,102
1991-92	10,653	51,805	62,458	40,486	3,600	2,492	3,905	1,871	39,350	3,46,394
1992-93	11,064	51,422	62,486	37,494	3,709	1,725	4,069	2,012	39,924	3,37,562
1993-94	11,260	51,202	62,462	37,080	3,775	911	4,192	2,117	40,053	3,12,405
1994-95	11,772	50,888	62,660	39,150	3,816	358	4,259	2,302	39,214	2,91,360
1995-96	12,306	50,609	62,915	40,180	4,055	209	4,313	2,387	39,308	2,60,791
1996-97	13,018	49,707	62,725	41,530	4,234	85	4,363	2,519	39,257	2,72,127
1997-98	13,490	49,005	62,495	43,480	4,455	64	4,496	2,646	40,166	2,63,981
1998-99	13,765	49,044	62,809	44,115	4,416	58	4,586	2,785	40,998	2,52,944
1999-2000	14,261	48,498	62,759	45,849	4,782	56	4,651	2,810	41,348	2,44,419

PASSENGER TRAFFIC

Passengers originating had risen from 1,284 million in 1950-51 to 4,585 million in 1999-2000 and passenger kilometre from 66.52 billion in 1950-51 to 431 billion in 1999-2000. Despite constraint of resources, the Railways have been able to cope with increasing demand of passenger traffic. Railways are the premier mode of passenger transport both for long distance and suburban traffic. During 1999-2000, Indian Railways introduced 72 new trains, extended the run of 78 trains and increased the frequency of 24 trains in non-suburban sector. Similarly, in the suburban sector, Railways introduced seven new trains. Besides, 26 DMU/Diesel Hauled Push Pull trains, seven EMU services, eight Main line EMU services and 46 Rail Bus services were also introduced during the year.

FREIGHT TRAFFIC

Rapid progress in industrial and agricultural sectors has generated a higher level of demand for rail transport, particularly in core sectors like coal, iron and steel, ores, petroleum products and essential commodities such as foodgrains, fertilizers, cement, sugar, salt, edible oils, etc. Revenue freight traffic increased from 73.2 million tonnes in 1950-51 to 456.42 million tonnes in 1999-2000. Transport effort measured in terms of net tonne kilometres (NTKm) increased from 38 billion in 1950-51 to 305.2 billion in 1999-2000. Some of the measures taken for improvement are : (i) line capacity augmentation on certain critical sectors and modernisation of signalling system; (ii) measures such as unit train operation for bulk commodities like coal; (iii) increase in roller-bearing equipped wagons; (iv) increase in trailing loads to 4,500 tonnes; (v) operation 'UNI-GAUGE' on Indian Railways; (vi) strengthening the track structure by providing heavier and stronger rails and concrete sleepers; and (vii) production of prototype electric locomotive of 5000 HP for freight operation by Chittaranjan Locomotive Works.

ROADS

India has one of the largest road networks in the world aggregating to about 3.3 million km at present. The Ninth Plan laid emphasis on a coordinated and balanced development of road network in the country under (i) primary road system covering National Highways; (ii) secondary and feeder road system covering State Highways and major district roads; and (iii) rural roads including village roads and other district roads. Substantial outlays were proposed for road development in the rural and tribal areas. Under the Ninth Plan, the allocation is Rs 8,862.02 crore (at 1996 price level) for Central Sector roads programme including Rs 3,576.79 crore (at 1996 price level) for externally aided projects.

NATIONAL HIGHWAYS

The Central Government is responsible for the national highway system totalling a length of 57,737 km. In 1947 approximately 2,500 km of missing road links and thousands of culverts and bridges, which did not exist, were

required to be constructed to have an integrated and continuous network. There was an increase in missing road links with addition of new roads to the National Highway system in later years. Up to 31 March 2000, road links including diversions, realignments, etc., constructed totalled 4,771 km, widening and strengthening single lane section to double lane carriageway was done in 26,573 km, widening to four-lane completed in 1,033 km, strengthening of weak two-lane pavement has been done in 16,346 km. In addition 601 major bridges and 3,219 minor bridges were also completed. A budget allocation of Rs 2,506 crore was made for the year 2000-01. Besides this additional supplementary grant of Rs 3,000 crore was made available from cess fund. In the budget estimate for the year 2001-2002 a sum of Rs 2,805.28 crore has been allocated from the budget and additional amount of Rs 2,210.72 crore has been made available from the cess account and has been earmarked to National Highway Authority of India (NHAI). Though the National Highways constitute only two per cent of the total road length, they carry nearly 40 per cent of road traffic.

The Ministry has been implementing projects funded with the assistance of World Bank, Asian Development Bank and Overseas Economic Co-operation Fund (OECF), Japan. At present six projects in Punjab, Haryana, Orissa, West Bengal, Madhya Pradesh and Maharashtra are in progress under World Bank Credit/Loan Assistance for US \$ 306 million. Projects in Orissa and West Bengal have been completed and the remaining are scheduled to be completed by June 2001. OECF has granted an assistance of Yen 4,899 million for a project in Uttar Pradesh which has also been completed. The NHAI have five projects under the loan assistance of US \$ 245 million from ADB in Haryana, Rajasthan, West Bengal, Orissa, Bihar and Andhra Pradesh. Of these four projects are nearing completion and the remaining one is likely to be completed by June 2002.

STATE SECTOR ROADS

State highways and district rural roads are the responsibility of State Governments and are maintained by various agencies in States and Union Territories. Roads are being developed in rural areas under Minimum Needs Programme (MNP). The objective of it is to link all villages with a population of 1,500 with all-weather roads. The Government also assists in development of certain selected roads in States.

LENGTH OF ROADS

The total length of roads in India stood at 24,65,877 km excluding those under *Jawahar Rozgar Yojana* (both surfaced and un-surfaced roads) in March 1997. State-wise break-up of the length of roads is given in table 22.2.

TABLE 22.2 : ROAD LENGTH IN INDIA STATE-WISE

(In km)

	Surfaced	Unsurfaced	Total
STATES			
Andhra Pradesh	1,08,739	69,273	1,78,012
Arunachal Pradesh	3,991	10,101	14,092
Assam	11,590	56,828	68,418
Bihar	32,998	55,354	88,352
Chhattisgarh ¹	-	-	-
Goa	5,695	2,868	8,563
Gujarat	79,380	11,516	90,896
Haryana	25,538	2,626	28,164
Himachal Pradesh	15,143	15,050	30,193
Jammu & Kashmir	8,225	13,221	21,446
Jharkhand ²	-	-	-
Karnataka	99,339	44,673	1,44,012
Kerala	45,249	1,00,455	1,45,704
Madhya Pradesh	88,620	1,11,517	2,00,137
Maharashtra	2,71,684	90,209	3,61,893
Manipur	3,598	7,343	10,941
Meghalaya	3,923	4,557	8,480
Mizoram	1,983	2,846	4,829
Nagaland	5,241	13,115	18,356
Orissa	86,929	1,75,774	2,62,703
Punjab	52,423	11,929	64,352
Rajasthan	76,813	52,861	1,29,674
Sikkim	1,527	307	1,834
Tamil Nadu	1,40,414	66,089	2,06,503
Tripura	4,577	10,152	14,729
Uttar Pradesh	1,48,303	1,07,164	2,55,467
Uttaranchal ³	-	-	-
West Bengal	42,558	32,877	75,435
UNION TERRITORIES			
Andaman and Nicobar Islands	1,273	44	1,317
Chandigarh	1,753	0	1,753
Dadra and Nagar Haveli	533	0	533
Daman and Diu	101	0	101
Delhi	24,071	2,511	26,582
Lakshadweep	1	0	1
Pondicherry	1,849	556	2,405
Total	13,94,061	10,71,816	24,65,877

¹ Included in Madhya Pradesh.² Included in Bihar.³ Included in Uttar Pradesh.

Note : Data given is as on 31 March 1997. It does not include roads constructed under Jawahar Rozgar Yojana.

BORDER ROADS ORGANISATION

Raised in May 1960 for development of roads of strategic importance in the northern and north-eastern border areas, the Border Roads Organisation (BRO) completed 41 years of dedicated service to the Nation. Since inception up to March 2001, it has completed 29,139 km of formation works, surfaced 34,306 km of roads, executed Rs 2,32,877 lakh worth of permanent works and constructed permanent bridges totalling a length of 16,601 running metres. The BRO in the service of the Nation, is a premier construction agency today, not only of roads but also of airfields, bridges, buildings, hospitals and schools. Development of the 160 km long Tamu-Kalemyo-Kalewa road in Myanmar to intermediate width specification undertaken in 1997 has been completed and handed over to Myanmar PWD in February 2001.

Currently the works in 19 States are being executed by the Organisation. Double laning of the NH 58 Sector Rishikesh-Joshimath-Mana in Uttaranchal totalling 300 km length is planned for commencement this year. The 478 km long road on NH-1A including two tubes of Jawahar Tunnel, a strategic link between J&K and the rest of the country, is being improved. Four-laning of the stretch of NH-1A from Jammu to Srinagar and of a 17.2 km stretch in sector Jammu-Pathankot have been entrusted to the BRO. Besides North Eastern Council (NEC) roads, totalling a length of 1,642 km are under construction. The works of Indo-Bangladesh Border Roads (Phase II) totalling 719 km and Fencing Works (Phase II) of 1,337 km in Meghalaya, Tripura and Mizoram entrusted to the BRO have commenced. Several projects like accommodation for a battalion of the Assam Rifles at Kaithalmanbi, Manipur; the North-Eastern Regional Institute of Science and Technology, Itanagar and seven *Jawahar Navodaya Vidyalayas* in the border States, are presently under construction. The BRO completed 21 major permanent bridges during 2000-01 and 92 such bridges are under construction. As of now, 21 national highway of 4,021 km length are in various stages of development and maintenance under the BRO. A total length of 17,435 km of road is under the maintenance of the BRO.

SHIPPING

Shipping plays an important role in India with a vast coastline of about 7,516 km and over two million sq km of Exclusive Economic Zone. The country has the largest merchant shipping fleet among developing countries and ranks 17th in the world in shipping tonnage. As on 1 April 2001, the net operative tonnage consisted of 546 ships totalling 68,16,599 Gross Registered Tonnage (GRT).

SHIPPING COMPANIES

There were 122 shipping companies in the country in operation as on 1 April 2001 including the Shipping Corporation of India, a public sector undertaking and ten other Government agencies. Of these, 84 are engaged exclusively in coastal trade, 23 in overseas trade, and 15 in both coastal and overseas trade. Shipping Corporation of India which is the biggest shipping line of the

country had a merchant fleet of 95 vessels of 2.68 million GRT as on 1 April 2001 and operated on almost all maritime routes. Its tonnage account for about 40 per cent of the total Indian tonnage. Major private sector shipping companies which own one lakh or more GRT are: (i) Great Eastern Shipping Company Limited (8.86 lakh GRT), (ii) Essar Shipping Company Limited (6.75 lakh GRT), (iii) Chowgule Steamship Limited (2.29 lakh GRT), (iv) Varun Shipping Company Limited & (1.79 lakh GRT), (v) Sanmar Shipping (1.70 lakh GRT), (vi) South India Shipping Company Limited & Surrendra Overseas Limited (1.30 lakh GRT), (vii) Tolani Shipping Company (1.16 lakh GRT), and (viii) Century Shipping (1.12 lakh GRT).

SHIPPING CORPORATION OF INDIA LIMITED

The Shipping Corporation of India Limited (SCI), a government owned public sector shipping company was formed on 2 October 1961. The authorised capital of SCI is Rs 450 crore and the paid up capital Rs 282.30 crore, as on 31 March 2000. The equity capital amounting to Rs 19.88 per unit has so far been disinvested by the Government. SCI has a track record of making profits and has been earning substantial return on investment. The Corporation has been accorded *Mini Ratna* status with effect from February 2000. The gross earning of SCI during 1999-2000 was Rs 2,607.98 crore with net profit of Rs 161.60 crore. SCI owns and operates about 99 vessels of 2.68 million GRT and 4.48 million Dead Weight Tonnage (DWT). The diversified fleet of SCI includes Bulk Carriers, Crude and Product Tankers, General Cargo Vessels, Cellular Container Vessels, Offshore Supply Vessels, Ammonia/LPG Carriers, Phosphoric Acid/Chemical Carriers, Passenger-cum-Cargo Vessels and Timber Carriers. The SCI also mans and manages 26 ships on behalf of Government organisations/departments. The Government has approved equity participation by SCI in the Joint Venture Shipping Company set up with Mitsui OSK Lines Limited and Atlantic Commercial Finance Inc., an affiliate of ENRON for carriage of LNG from Oman and Abu Dhabi to India for the Dabhol Power Company, Maharashtra.

SHIPPING BODIES

The National Shipping Board, which is a statutory body set up under the Merchant Shipping Act, 1958, advises the Central Government on shipping matters. The Board meets periodically and its 101st meeting was held at Chennai on 18 May 2001. The Board is reconstituted every two years.

COASTAL SHIPPING

Coastal shipping is an energy efficient, environment friendly and economical mode of transport in the Indian transport network and a crucial component for development of domestic industry and trade. India has 7,516.6 km long coastline (including 1,962 km of Andaman & Nicobar Islands and 132 km of Lakshadweep Islands), studded with 12 major and 189 minor and intermediary ports providing congenial and favourable conditions for the development of domestic transport infrastructure.

India's Coastal Shipping Tonnage as on 1 April 2001 consists of 316 ships with 6,97,242 GRT.

The Ministry has finalised an Action Plan for the development of coastal shipping. In order to promote coastal shipping and sailing vessels industry, the home trade vessels and sailing vessels have been exempted from the payment of light dues vide Gazette Notification dated 8 September 2000 under the provisions of the Lighthouse Act, 1927.

MARITIME TRAINING INSTITUTES

The Lal Bahadur Shastri College of Advanced Maritime Studies and Research, Mumbai attracts a large number of students in marine education and it is perhaps the largest in terms of student population among the marine institutions of the world. It offers over 30 post-sea courses, which run almost concurrently. The courses meet the standards of International Maritime Organisation as well as those of the Government of India. There are about 1,000 students on the rolls at any given point of time.

Marine Engineering and Research Institute (MERI), Kolkata conducts a four-year degree course in Marine Engineering with intake capacity of 120 students including 10 seats for foreign nationals per year. MERI, Mumbai conducts six months course for Mechanical Engineering graduates.

Shore-based academy, Training Ship Chanakya, New Mumbai conducts two types of courses : (i) three-year degree course leading to B.Sc. in Nautical Science with an intake capacity of 90 students per year including 10 seats for foreign nationals and (ii) three months pre-sea training course for deck cadets with intake capacity of 120 cadets per year.

AIDS TO NAVIGATION

Since Independence India has made rapid growth in Aids to Marine Navigation. From 17 Lighthouses prior to Independence, the present strength of Aids to Navigation consists of 167 Lighthouses, one Lightship, 11 Radio Beacons, four Decca Navigator Chain Stations, six Loran-C Chain Stations, 29 Racons, 12 Deep Sea Lighted Buoys and 10 Differential Global Positioning System (DGPS) stations. To cater to the needs of light stations in the islands and for maintaining the buoys, the Department is maintaining three launches, one mechanised boat and two large ocean going vessels, *M.V. Sagardeep* and *M.V. Pradeep*.

SHIP BUILDING

There are nine shipyards in India in the Central public sector. Apart from this, there are 21 small shipyards in private sector, which cater to domestic requirement for medium and small craft. Maximum size of the vessels that could be constructed in Cochin Shipyard Limited (CSL) and Hindustan Shipyard Limited (HSL) are 1,00,000 DWT and 50,000 DWT respectively. CSL has delivered three tankers each of the capacity of 86,000 DWT to SCI. The third was delivered in May 1999 adopting Integrated Hull Outfit and Painting (IHOP) technology. These were constructed for the first time in the country. Small shipyards are geared up for meeting country's requirement for small/medium

size crafts and fishing vessels. The ship-building industry is open to private sector irrespective of size of the ship except for construction of warships.

In order to enable the Indian Public Shipyards to have level playing field and to compete in the international market, the Government, in August 1997, introduced revised shipbuilding subsidy scheme which, *inter alia* envisages payment of 30 per cent shipbuilding subsidy in respect of ocean going vessels. This subsidy is available for domestic and export order as well. Besides shipping companies acquiring ships for Indian public sector shipyards can raise finance through External Commercial Borrowings (ECB). This scheme would remain in force for a period of five years from 1997. The scheme was modified in August 2000 to provide level playing field to the private sector shipyards by setting a limit on the size of the ocean going vessels which would be eligible for shipbuilding subsidy. The private sector shipyards are capable of building vessels up to 120 M length only. Thus Public Sector Shipyards can avail subsidy for ocean going vessels of size of 120 M length and beyond. The scope of subsidy scheme has now been widened for export orders. Subsidy is available irrespective of type and size of vessels. The interest differential subsidy scheme has been restored for Indian Shipping Companies placing orders on Public Sector Shipyards.

A premier national institution namely National Ship Design and Research Centre (NSDRRC), Visakhapatnam, an autonomous body under the administrative control of Ministry of Shipping has been set up with a view to providing service in ship design and research to assist Indian shipbuilding and shipping industries.

SHIP REPAIR

Of the 17 dry docks in the country, 13 are available for commercial ship repair activities. Dry docks at CSL and HSL can accommodate ships of maximum size of 1,25,000 DWT and 70,000 DWT respectively. In addition, ship repair facilities have been set up at Madras Port by a private entrepreneur with two floating dry docks of 14,000 tonnes lifting capacity (TLC) and 24,000 TLC respectively. In addition Western India Shipyard Limited has set up ship repair facilities at Mormugao on the West Coast. A floating dry dock of 20,000 TLC has been installed which caters to ships up to 60,000 DWT. In order to promote private sector participation in ship repair industry, certain concessions have been given to the industry.

R&D SCHEMES

The Ministry of Shipping has a scheme for providing grants-in-aid to research and educational institutions for carrying out R&D schemes in shipbuilding. In the Ninth Plan, six schemes have been completed by IITs and NSDRRC, *viz.*, development of manual for software on 3D, Finite Element Analyses of ships structure, development of computer software for ship design and operation, Design of Sail and Standard Hull Design for mechanized country craft, Energy Audit of Ships, Development of Design Rules for FRP boats and ships. Four schemes are under implementation.

HINDUSTAN SHIPYARD LIMITED

The Hindustan Shipyard Limited (HSL), Visakhapatnam was set up in 1941 in private sector, *i.e.*, Scindia Steam Navigation Company Limited. At the behest of the owners, the Government took over the shipyard as a new company, *viz.*, Hindustan Shipyard Limited in 1952. In 1962, the shipyard became a Central public sector enterprise. The yard has the following activities: (i) **Shipbuilding**: Capacity of the yard is 3.5 pioneer type of vessels of 21,500 DWT (total capacity 75,250 DWT). It is capable of building ships up to 50,000 DWT. It has slipways, covered building dock, wet basin and outfit jetty, etc. HSL is the first shipbuilding yard in the country which was awarded ISO:9001 certification by Lloyds Register of Quality Assurance (LRQA), London for international standard of quality assurance; (ii) **Ship repairs**: Repair Dock does have facilities of modern dry dock, wet basin, repair shops, etc., so as to undertake repairs of submarine and tankers and ships up to 57,000-70,000 DWT; and (iii) **Offshore platforms construction yard**: The yard is capable of constructing two platforms per annum. Infrastructure includes two crawlers, cranes and load out facilities. HSL has so far constructed and delivered 115 vessels, including the Naval vessels and other small crafts. In September 2000, the yard delivered a 42,750 DWT cargo carrier (VC-1135) for Shipping Corporation of India.

COCHIN SHIPYARD LIMITED

The Cochin Shipyard Limited (CSL) was incorporated on 29 March 1972 as a Company fully owned by the Government of India. The Yard is designed to construct Ships of sizes up to 1,00,000 DWT and repair ships up to 1,25,000 DWT. The Yard has constructed and delivered eight large ships (five bulk carriers and three crude oil tankers). The Yard has also constructed 35 small vessels. At present the Yard has orders for one 45-Ton Tug and one Dredger for Chennai Port Trust, one 93,000 DWT Double Hull Tanker for Shipping Corporation of India and one 150 Passenger Vessel for Lakshadweep Administration. The Yard has so far repaired more than 800 ships of all descriptions. The ship-repair turn-over has increased from Rs 22 crore in 1990-91 to Rs 172.69 crore during 2000-2001. Cochin Shipyard is the only Shipyard with ISO-9001 accreditation for Shipbuilding, Ship-repair and Marine Engineering Training.

HOOGLY DOCK AND PORT ENGINEERS LIMITED

Hooghly Dock and Port Engineers Limited (HDPEL), Kolkata became a Central public sector undertaking in 1984 for securing better utilization of the available infrastructure thereof, to modernise and increase the capacity for ship-building and ship-repair in the country. The company has two working units in Howrah district of West Bengal, one at Salkia and another at Nazirgunge. The unit located at Salkia Works constructs various types of ships, passenger and other vessels, crafts, dredgers, tugs, floating dry docks, fishing trawlers, off-shore platform, supply-cum-support vessels, multipurpose harbour vessels, lighthouse tender vessels, etc. This unit has an outfit at Kidderpore Dock Complex at Calcutta port for repair of various types of ocean

going vessels and dredgers. The unit at Nazirgunge Works is engaged in the construction of fishing trawlers, fire-floats, barges, mooring launches, grab hopper dredgers, etc., and repair of different types of vessels besides general fabrication, machining and foundry jobs. HDPEL presently has one each of the following orders in hand: Lighthouse Tender Vessel, Surface Dredger, Multipurpose Tug, Bollard Pull Tug and 400 Passenger Vessel.

INLAND WATER TRANSPORT

India has got about 14,500 km of navigable waterways which comprises river canals, backwaters, creeks, etc. At present, however, a length of 3,700 km of major rivers is navigable by mechanised crafts but the length actually utilised is only about 2,000 km. As regards canals, out of 4,3000 km of navigable canals, only 900 km is suitable for navigation by mechanised crafts. About 18 million tonnes of cargo is being moved by Inland Water Transport (IWT), a fuel efficient and environment friendly mode. IWT is also known for higher employment generation potential. Its operations are currently restricted to a few stretches in the Ganga-Bhagirathi-Hooghly rivers, the Brahmaputra, the Barak river, the rivers in Goa, the backwaters in Kerala and in the deltaic regions of the Godavari-Krishna rivers. Besides the organised operations by mechanised vessels, country boats of various capacities also operate in various rivers and canals.

INLAND WATERWAYS AUTHORITY OF INDIA

The Inland Waterways Authority of India (IWAI) was set up on 27 October 1986 as a statutory body corporate under the Inland Waterways Authority of India Act, 1986. The authority is entrusted with the responsibility of development, maintenance and regulation of national waterways and also to advise the Central and the State governments on matters relating to development of IWT.

NATIONAL WATERWAYS

Considering the need to develop Inland Waterways and Inland Water Transport to play its rightful role in the transport network of the country, the Government had identified 10 important waterways for consideration to declare them as National Waterways. The Ganga between Allahabad and Haldia (1,620 km) on 27 October 1986, the Sadiya-Dhubri stretch of river Brahmaputra (891 km) on 26 October 1988 and the Kollam-Kottapuram stretch of West Coast Canal (168 km) along with Champakara canal (14 km) and Udyogmandal Canal (22 km) in Kerala with effect from 1 February 1993 have so far been declared as National Waterways and the same are being developed for navigation by Inland Waterways Authority of India. Techno-economic Studies on many other waterways such as Godavari, Krishna, Barak, Sunderbans, Buckingham Canal, Brahmani East- Coast Canal, DVC Canal, etc., have been completed and found viable.

The Government of India has approved policy measures for promoting Inland Water Transport which *inter alia* empower IWAI to raise bonds to mobilise funds from the market, to enlarge the role of IWAI to enter into commercial joint ventures to encourage investment in IWT sector, framing of

policy guidelines for private sector participation, etc. The Inland Waterways Authority of India has formulated various schemes for creation of necessary IWT infrastructure and also for demonstration of the viability of IWT for creating awareness among the prospective private investors. Experimental cargo services are operated from Haldia Port to destinations in Bihar and Uttar Pradesh with this objective.

Considering the benefits of the IWT mode and the urgent need to create additional transport infrastructure, the IWT sector has been given a high priority during the Ninth Five Year Plan. While planning the infrastructure development in the IWT sector, the objective set for this plan is to achieve 20 billion tonnes which corresponds to two per cent of the total inland cargo.

CENTRAL INLAND WATER TRANSPORT CORPORATION

The Central Inland Water Transport Corporation (CIWTC) with its headquarters at Kolkata was set up as a public sector undertaking in May 1967. The CIWTC is mainly engaged in transportation of goods by Inland Waterways in the Ganga-Bhagirathi-Hooghly, Sunderbans and the Brahmaputra rivers. They are operating regular cargo services between Kolkata and Pandu (near Guwahati), between Kolkata and Karimganj (Assam), Kolkata-Bangladesh and between Haldia and Patna. The Corporation is also having a Shipyard called Rajabagan Dockyard in Kolkata which is engaged in the construction and repair of inland vessels and harbour crafts. A deep sea ship repair division at Kolkata is also functioning under CIWTC.

PROTOCOL ON INLAND WATER TRANSIT AND TRADE

The Indo-Bangladesh Protocol on Inland Water Transit and Trade which came into operation in November 1972 has been renewed from time to time. This protocol was last renewed on 28 October 1999 at Dhaka till 3 October 2001.

PORTS

India has about 5,600 km of main coastline serviced by 12 major ports and 181 other ports. The major ports are under the purview of the Central Government, while other ports (popularly termed as minor/intermediate ports) come under the jurisdictions of the respective State governments.

Mumbai, Jawahar Lal Nehru at Nava Shewa, Kandla, Mormugao, New Mangalore and Cochin are the Major Ports on west coast and Calcutta/Haldia, Paradip, Visakhapatnam, Chennai, Ennore and Tuticorin are the major ports on east coast.

Capacity of the Indian Ports increased from 20 million tonnes (MT) of cargo handling in 1951 to more than 300 MT at present. At the beginning of the Ninth Plan, the capacity of major ports was about 220 MT. It is proposed to be increased to 350 MT by the end of the plan. As on 31 March 2001, the capacity available at major ports in the country was 291 million tonnes. The capacity of minor ports is also expected to increase to over 50 MT by the end of the current Five Year Plan.

Transport

The number of cargo vessels handled at major ports is 15,000 per annum. The aggregate cargo handled at major ports during 2000-01 was 281 MT. The volume of cargo traffic at minor/intermediate ports is expected to touch 80-85 MT during 2000-01. Maximum traffic handled by major ports pertain to liquid cargo (48 per cent) followed by dry cargo (36 per cent) and the remaining to general cargo. About 70 per cent of the cargo handled at these ports is for overseas trade, of which an approximate 30 per cent constitute exports.

PRIVATE SECTOR PARTICIPATION

In order to improve efficiency, productivity and quality of services, as well as to being in competitiveness in port services, the port sector has been thrown out open to private sector participation. This is in consonance with the general policy of liberalisation/globalisation of economy of the Government of India. It is expected that private sector participation would result in reducing the gestation period for setting up new facilities, also bringing the latest technology and improved management techniques.

Various areas of port functioning, such as leasing out existing assets of the port, construction/creation of additional assets, leasing of equipment for port handling and leasing of floating crafts from the private sector, pilotage and captive facilities for port based industries, have been identified for participation/investment by the private sector.

The first private sector project Nava Shewa International Container Terminal (NSICT) at Jawaharlal Nehru Port became operational in the year 2000. This terminal has already captured a substantial share in container handling not only in the region but also among all the major ports in the country. A container berth at Tuticorin Port is also being managed privately. A number of other projects are in the pipeline.

SCHEME OF JOINT VENTURES

A scheme of joint ventures formations between major port and foreign port, between major port and minor port (s), with tender, as well as between major port and company (ies) following tender route has been approved by the Government. The measure is aimed at facilitating Port Trusts to : (i) attract new technology; (ii) introduce the better managerial process; (iii) expedite implementation of schemes; (iv) foster strategic alliance with minor ports for creation of optimal port infrastructure; and (v) enhance confidence of private sector in funding ports.

CIVIL AVIATION

ORGANISATION

The civil aviation sector has three main functional divisions—regulatory, infrastructural and operational. On the operational side, Indian Airlines, Alliance Air (subsidiary of Indian Airlines), private scheduled airlines and air taxis provide domestic air services and Air India provides international air services. Pawan Hans renamed Pawan Hans Helicopters Limited provides

helicopter services to ONGC in its shore operations and to inaccessible areas and difficult terrains. Indian Airlines operations also extend to the neighbouring countries, South East Asia and Middle East. India has been a member of International Civil Aviation Organisation (ICAO) and is also on the Council of ICAO since its inception.

The Government has ended the monopoly of Indian Airlines and Air India on the scheduled operations by repealing the Air Corporation Act, 1953. There are at present two private scheduled airlines operating on the domestic network rendering the passengers a wide choice of flights. Apart from this, at present 38 companies are holding non-scheduled air taxi operators permit. The policy on domestic air transport service was approved in April 1997 according to which barriers to entry and exit from this sector have been removed; choice of aircraft type and size has been left to the operator; entry of serious entrepreneurs only has been ensured; and equity from foreign airlines, directly or indirectly, in this sector has been prohibited. The existing policy on air taxi services providing for a route dispersal plan to ensure operation of a minimum number of services in the North-Eastern Region, Andaman and Nicobar Islands, Lakshadweep and Jammu and Kashmir has been retained.

MINISTRY OF CIVIL AVIATION

The Ministry of Civil Aviation is responsible for the formulation of national policies and programmes for development and regulation of civil aviation and for devising and implementing schemes for orderly growth and expansion of civil air transport. Its functions also extend to overseeing the provision of airport facilities, air traffic services and carriage of passengers and goods by air. The Ministry is also administratively responsible for Commission of Railway Safety, a statutory body set up under the Railways Act.

CARGO

In order to help the Indian exporters and make their exports more competitive, the Government in April 1990 introduced an 'open sky policy' for cargo. Under this policy any foreign airlines or association of exporters can bring freighters to the country for upliftment of cargo. The Government has also permitted market forces to determine cargo tariff, with IATA rates as the floor rates.

TOURIST CHARTER FLIGHTS

The tourist charter flights bringing foreign tourist in the country, are now allowed to operate to Goa, Agra, Varanasi, Jaipur and Bangalore airports in addition to the international airports. The minimum payment to the Indian Tour Operator by the foreign charter operator is 400 US \$ per person, effective from 1 April 1998. However, for tourists from SAARC countries and Myanmar, the amount to be paid is 50 per cent of the aforesaid amount. During 1999-2000 (up to April 2000), 952 charter flights were operated bringing in 2,07,242 foreign tourists

IMPORT OF TRAINER AIRCRAFT

The power to permit import of flying training aircraft by recognised flying clubs/institutes has been delegated by the DGFT to the Ministry of Civil Aviation.

DIRECTORATE GENERAL OF CIVIL AVIATION

The Directorate General of Civil Aviation (DGCA) is the regulatory organisation for enforcing civil air regulations. It is responsible for (i) Regulation of air transport services to/from and within India; (ii) registration of civil aircraft in India; (iii) formulation of standards of airworthiness for civil aircraft registered in India and grant of certificate of airworthiness to such aircraft; (iv) licensing of pilots, aircraft maintenance engineers and flight engineers; (v) licensing of aerodromes in India; (vi) investigation into air accidents and incidents, (vii) implementation of bilateral air services agreements with foreign countries; (viii) rendering advice on matters relating to air transport; (ix) processing of aviation legislation; (x) supervision of training activities of the flying/gliding clubs in India; (xi) development of light aircraft, gliders and winches and (xii) type certification of aircraft. DGCA also coordinates all regulatory functions with the International Civil Aviation Organisation (ICAO).

BUREAU OF CIVIL AVIATION SECURITY

The Bureau of Civil Aviation Security (BCAS) is the nodal body on all civil aviation security matters. It is responsible for laying down the standards of the pre-embarkation security and anti-sabotage measures in respect of civil flights in India, for monitoring their enforcement at the airports through periodical/surprise inspection and conduct of dummy checks. It also imparts training in aviation security on a regular basis. It has four regional offices at Mumbai, Delhi, Kolkata and Chennai, which have a bomb detection and disposal squads and controller of explosives. The Bureau has sniffer dog squads at Delhi, Mumbai, Kolkata, Chennai and Srinagar airports. The Bureau deals contingencies such as hijacking and bomb threats to the aircraft.

AIRPORTS AUTHORITY OF INDIA

The Airports Authority of India (AAI) was formed on 1 April 1995 by the merger of the erstwhile International Airports Authority of India and the National Airports Authority. The new authority is responsible for providing safe, efficient air traffic services and aeronautical communication services for effective control of air traffic in the Indian air space. The Authority manages 11 international and 112 domestic airports including 28 passenger terminals at defence airfields. It controls and manages the entire Indian space extending beyond the territorial limits of the country, as accepted by the International Civil Aviation Organisation (ICAO).

The main function of the Authority consist of : (i) providing safe and efficient Air Traffic Services, Communication and Navigational Aids at all the airports, (ii) plan, develop, construct and maintain runway, taxi-ways, apron,

terminal building, etc., (iii) provide Air Safety Services and (iv) search and rescue facilities in coordination with other agencies and other functions as described in the AAI Act.

The Authority has a Civil Aviation Training College at Allahabad for imparting training on various operational areas like Air Traffic Control, Radars, Communication, etc. The Authority maintains the National Institute of Aviation Management and Research (NIAMAR) at Delhi for imparting various aviation management training programmes and refresher courses. In addition, there is a Fire Service Training School at Narayanpur near Kolkata and the Fire Training Centre at New Delhi for imparting training and conducting refresher courses on fire fighting rescue services.

AIRPORT PRIVATISATION

It has been decided to restructure the airports of Airports Authority of India as and when found suitable through long term lease. This would improve the managerial efficiency, bring the standards of services/facilities at par with international standards and to attract investment from private sector. At present the existing airports at Delhi, Mumbai, Chennai and Kolkata are being taken up for this exercise. The Government has also approved the proposals for setting up new airports of international standards at Bangalore, Hyderabad and Goa with private sector participation. It has also been decided to declare existing domestic airports at Bangalore, Hyderabad, Ahmedabad, Goa, Amritsar, Guwahati and the new Cochin airport at Nedumbassery as international airports.

AIR SERVICES

India has bilateral air services agreements with 96 countries as on 31 May 2001. Air India owns a fleet of 23 aircraft consisting of six B-747-400, two B-747-300, four B-747-200, three A-300-B4s and eight A-310-300 aircraft. In addition, Air India has inducted four A-310-300 aircraft on dry lease basis. With 27 aircraft and 16,714 employees, Air India operates 35 destinations (with its own aircraft and serves 12 additional destinations through arrangements with foreign airlines. Air India carried 3.35 million passengers in 1999-2000.

Indian Airlines is the major domestic air carrier of the country. It operates 63 domestic stations together with its wholly owned subsidiary Alliance Air. Indian Airlines also operates to 17 international stations, viz., Bangkok, Singapore, Kuala Lumpur, Yangon, Kathmandu, Colombo, Dhaka, Male, Karachi, Kuwait, Sharjah, Dubai, Fujirah, Ras-al-Khaimah, Muscat, Doha and Bahrain. Indian Airlines has a fleet of 57 aircraft—eleven A-300s, thirty-two A-320s, eleven B-737s (including leased aircraft) and three Dornier-228s. All B-737 aircrafts are being operated by Alliance Air.

Pawan Hans Helicopters Limited, operates and maintains 30 state-of-the-art helicopters. The Company has a mixed fleet of helicopters of various sizes and types catering to different customers requirements. These include the three seater R-44, 5-6 seater Bell 206 L4 and Bell 407, 11 seater Dauphin and 26 seater Mi-172 helicopters. The company achieved a total flying task of

Transport

18,345 hours in 1999-2000 and 2,60,000 hours so far.

INDIRA GANDHI RASHTRIYA URAN AKADEMI

Indira Gandhi Rashtriya Uran Akademi located at Fursatganj (UP) is an autonomous body under the Ministry. The Akademi was established to provide an opportunity to commercial pilots to achieve higher standards in flying and ground training. The Akademi is equipped with modern and sophisticated trainer aircraft, flight simulators, computer based training system (CBT). It has its own ATC and runway airspace, up-to-date audio-visual training aids and other facilities for imparting effective flying and ground training. Flying training is conducted on *Trinidad TB-20* single engine and *King Air C-90A* twin-engine turbo prop aircraft, fitted with modern instruments and avionics. Commercial Pilot Licence courses with multi-engine endorsement and Instrument Rating are conducted on a regular basis. Presently 31 pilots are under training.

RESEARCH AND DEVELOPMENT

Research and Development Directorate of DGCA is responsible for : (i) type certification of civil aircraft, engines, propellers and equipment; (ii) approval of modification and repair schemes of civil aircraft; (iii) development testing of indigenous aircraft materials, parts and equipment; (iv) scientific laboratory investigation on failed aircraft/power plan, structural parts and components; (v) design and development of gliders, light trainer aircraft, glider launching winches; (vi) quality control monitoring and testing of fuel samples, etc., and (vii) economics of aircraft operation and performance evaluation.

TOURISM

Tourism has emerged as an instrument for employment generation, poverty alleviation and sustainable human development. During 1999-2000, direct employment in the tourism sector was estimated to be 15.50 million. Tourism also promotes national integration and international understanding and gives support to local handicrafts and cultural activities.

Tourism in India has grown substantially over the last three decades. Foreign tourist arrivals during 2000 were 26,41,157. India's share in the world tourist market during 2000 was 0.38 per cent. Foreign exchange earnings from tourism during 2000 were estimated at Rs 14,475 crore.

Domestic tourism plays a vital role in achieving the national objectives of promoting social and cultural cohesion and national integration. Its contribution to generation of employment is very high. With the increase in income levels and emergence of a powerful middle class, the potential for domestic tourism has grown substantially during the last few years.

In order to further accelerate the development of tourism in the country, the thrusts during the Ninth Five Year Plan are : (a) development of infrastructure; (b) product development and diversification; (c) development of eco-adventure sports and wildlife tourism; (d) exploring new source markets; (e) environmental protection and cultural preservation of national

heritage; (f) launching of national image building and marketing plans in key markets; (g) providing inexpensive accommodation in different tourist centres; (h) streamlining of facilitation procedures at airports; (i) human resource development; (j) creating awareness and public participation; and (k) facilitating private sector participation in development of infrastructure, etc.

ORGANISATION

The organisations involved in the development of tourism at the Centre are Department of Tourism, Indian Institute of Tourism and Travel Management, National Council for Hotel Management and Catering Technology, India Tourism Development Corporation Limited, Indian Institute of Skiing and Mountaineering and National Institute of Water Sports.

The Department of Tourism is responsible for formulation and implementation of policies and programmes for the development of tourism within the country and for attracting foreign tourists to India by way of developing tourism infrastructure, publicity and promotion, dissemination of information, co-ordination and supervision of activities of various segments of industry such as hotels, travel agencies, tour operators, etc.

There are 21 field offices of the Department of Tourism in India and 18 in other countries to undertake both developmental and promotional activities. While the overseas offices are in constant contact with tourists, travel intermediaries and media to promote tourism in India, the field offices in India provide facilitation services to tourists and co-ordinate with the State Governments on tourism infrastructural development. The overseas tourist offices are the outposts of the Department in the traffic generating markets of the world and their prime function is to develop strategies for market development and implement them to increase the tourist flow to India. Tourist offices abroad also handle tourist enquiries, disseminate tourist information, undertake tourist promotion by means of advertisement and publicity and maintaining liaison with trade and press.

The India Tourism Development Corporation (ITDC), a public sector undertaking, was established in October 1966. The activities of the Corporation include : (a) construction, management and marketing of hotels, restaurants, travellers lodges for tourists at various places in the country; (b) provision of tourist transport facilities; (c) production, distribution and sale of tourist publicity materials; (d) entertainment facilities such as light and sound shows, music concerts, etc.; (e) provision of shopping facilities including duty free shops; and (f) provision of consultancy-cum-managerial services in India and abroad. The present network of services comprises 26 Ashok Group of Hotels (including two Palace Hotels and two Beach Resorts), six Joint Venture Hotels, five Restaurants (including four Airport Restaurants), 11 Ashok Travels & Transport Units, one Tourist Service Station, 29 Duty Free Shops at six International Airports, one Down Town & Tax Free Shop and one Sound & Light Show. The Corporation also provides catering services at Western Court, Hyderabad House, Vigyan Bhavan and National Media Press Centre at Shastri

Bhavan, New Delhi besides managing a Forest Lodge, a Restaurant and Sound & Light Show on behalf of the Department of Tourism.

The Indian Institute of Tourism and Travel Management is an autonomous body set up to provide education in Tourism and Travel Management and to meet the demands of professionally trained personnel in the tourism industry. The Institute has also assisted several universities for running courses at the post-graduate level.

The Department of Tourism has accorded high priority to the development of man-power to meet the growing needs of hotels, restaurants and other hospitality based industries. For this purpose, 21 institutes of hotel management and catering technology and 15 food crafts institutes have been set up in the country. These institutes conduct diploma courses in the fields of Hotel Management and Catering Technology and Applied Nutrition and craft courses in food and beverage services. Food craft institutes conduct craft courses for a duration ranging from six months to one year for operational staff.

In order to encourage adventure tourism, the Department of Tourism has set up a National Institute of Water Sports at Goa and the Indian Institute of Skiing and Mountaineering (IIS&M) at Gulmarg. The IIS&M conducts courses at Auli, Patnitop, Gulmarg and Kulu. The National Institute of Water Sports conducts and facilitates courses in various activities like sailing, scuba diving, water skiing, etc. The Institutes act as the nodal centres for adventure and sports oriented tourism activities in the country.

HOTEL ACCOMMODATION

The hotel sector forms one of the most important segments of the tourism industry with high potential for employment generation and foreign exchange earnings. To give impetus to this sector, the government provides tax benefits and other incentives. The industrial policy has now placed hotels and tourism related activities as a priority industry. Foreign investment and collaborations are now facilitated under the new economic policy. Automatic approval is available for foreign equity investment up to 100 per cent in hotel and tourism sector.

CLASSIFICATION OF HOTELS UNDER THE STAR SYSTEM

The Department of Tourism classifies functioning hotels under the star system into various categories from one to five-star deluxe and a newly introduced category of heritage hotels. The Department also reclassifies these hotels after every four years to ensure that requisite standards are maintained by them. The Hotels and Restaurants Approval and Classification Committee (HRACC) set up for the purpose has representatives drawn from Central Government, State governments and hotel and travel industry associations. By the end of March 2000, there were 72,156 rooms in the approved hotels. The classified

hotels included 157 in one-star, 377 in two-star, 356 in three-star, 94 in four-star, 62 in five-star, 54 in five-star deluxe and 64 in heritage category.

HERITAGE HOTELS

A new classification of heritage hotels has been introduced to cover functioning hotels in palaces, *havelies*, castles, forts and residencies built prior to 1950. As the traditional structure reflects the ambience and lifestyle of the bygone era and are immensely popular with the tourists, the scheme is aimed to bring such properties into the approved sector that such properties, landmarks of our heritage are not lost due to decay and unuse. Sixty-four properties have been classified in the heritage hotel category providing a capacity of 1,655 rooms for tourists.

PAYING GUEST ACCOMMODATION

In order to augment the accommodation facilities at the major tourist centres, paying guest accommodation scheme was introduced in 1991 for providing better lodging facilities to foreign and domestic tourists. The scheme was transferred to the State governments in 1995. The objectives of the scheme are: (a) to provide affordable and hygienic accommodation facilities; and (b) to offer visiting foreign tourists an opportunity to stay with an Indian family, experience the Indian way of life, discover its rich culture, etc.

TRAVEL TRADE

Travel Trade Division of the Department of Tourism extends support to the travel trade both national and international and coordinates with various Central departments and State governments. It also interacts with travel trade associations like Travel Agents Association of India (TAAI), Indian Association of Tour Operators (IATO), Tourist Transport Operators Association, and other agencies like India Convention Promotion Bureau, Pacific Asia Travel Association (PATA), etc.

The Department of Tourism has streamlined and simplified the rules regarding the grant of approval to travel agents, tour operators and tourist transport operators. By the end of April 2001, the Department of Tourism has approved 388 tour operators, 290 travel agents, 258 transport operators and three adventure tour operators. With a view to attract more tourist charter flights to India, the system of granting clearance has been proposed to be liberalised through DGCA. An air-conditioned rake with modern design for *Palace on Wheels* train has been fabricated and has become operational in Rajasthan. Another special tourist train *Orient Express* has been introduced in Gujarat sector and a few more are likely to be introduced in the private sector.

PATA Annual Conference is scheduled to be held from 14-18 April 2002 in New Delhi where India will play the host to about 1,300 delegates from various countries.

23 Communications

THE early postal system of India was solely used for official purposes and it was not until 1837 that the postal services were opened to the public. The first postage stamp was issued in Karachi in 1852, valid only in Sind province. In 1854, the Indian Post Office was reorganised as an institution, with a Director General-in-charge. 700 post offices were then already in existence. Since then, postal services have grown both in terms of the extent of the postal network and its scope and the variety of the services it offers. The statute governing the postal services in the country is the Indian Post Office Act, 1898. It vests the Government with the exclusive privilege of collecting, carrying and delivering letters within the country.

POSTAL NETWORK

Indian Postal network is the largest postal network in the world. The country has 1,54, 551 post offices, out of which, 1,38,149 are in rural areas and 16,402 are in urban areas. At the time of Independence there were 23,344 post offices throughout the country. Of these 19,184 post offices were in the rural areas and 4,160 offices in urban areas. The postal network has grown almost seven folds since then.

Expansion of postal network especially in the rural areas has been brought about by the system of extra departmental post offices. On an average, a post office serves an area of 21.26 sq km and a population of 5,462. Post offices in rural areas are opened subject to satisfaction of norms regarding population, income and distance laid down by the Department for the purpose. The element of subsidy involved in opening of post offices in hilly, desert and inaccessible areas is to the extent of 85 per cent of the cost, whereas the subsidy in opening of post office in normal rural areas, is to the extent 66 1/3 per cent of the cost.

The postal network consists of four categories of post offices, *viz.*, head post offices, sub-post offices, extra-departmental sub-post offices and extra-departmental branch post offices. All categories of post offices offer similar postal services, delivery function being restricted to only earmarked offices. In terms of management control, accounts are consolidated progressively from branch post office to sub-post office and finally in head post office.

MAIL SYSTEM

First-class mail, *viz.*, post cards, inland letter cards and envelopes, are given air lift, without any surcharge, between stations connected by air. Second-class mail, *viz.*, book packets, registered newspapers and periodicals are carried by surface transport, *i.e.*, trains, buses and other means.

The Department handled about 1,578.2 crore pieces of mail during the year 1999-2000. Out of this 1,363.7 crore constituted first-class mail which comprised household mail and official and business correspondence. Second-class mail was 214.46 crore. The volume of unregistered mails handled during 1999-2000 was 1,550.57 crore out of which rural mail constituted 625.72 crore and urban mail 924.85 crore. The registered mail handled during 1999-2000 was 27.59 crore. Besides, the Department handled 11.37 crore money orders of total value of Rs 5,707.94 crore during 1999-2000.

IMPROVISING MAIL TRANSMISSION

With a view to ensuring a dedicated mail transmission system catering to the special customer needs, local mail is segmented from non-local mail. For the purpose of prioritization in transmission non-local mail is further segmented as: household mail, official mail, corporate mail, *patrika* and periodical mail, packets and parcels. First class household and official mail have been identified as priority mail.

The following mail channels have been introduced in cities and larger towns:

(a) *Rajdhani Channel*—This channel was introduced for transmission of mail from Delhi to six state capitals with effect from 16 May 1994. The remaining state capitals were covered by August 1995. The Rajdhani Channel aims at catering to the first class mail emanating from Delhi and meant for the state capitals and *vice versa*. Yellow-coloured letter boxes have been installed for such letters.

(b) *Metro Channel*—This channel was introduced on 2 April 1994 to handle inter-metro first-class mail between Bangalore, Kolkata, Chennai, Delhi, Hyderabad and Mumbai. In these cities light blue-coloured letter boxes have been installed especially for such letters.

(c) *Green Channel*—Special arrangements exist in all major cities for expeditious delivery of local mail through this system. Unregistered first-class mail emanating from a town and meant for delivery within that town are delivered the next day of posting. Green letter boxes are installed at selected post offices and at other public places for posting of local mail. The main objective of this channel is to segregate the local mail for its speedy processing and expeditious delivery.

(d) *Business Channel*—Business Channel comprises first-class unregistered letter mail posted by corporate bodies including Government and semi-government institutions at the counter of a designated post office or a mail office. If the quantum to be mailed at a time exceeds 2,000, it is required to be pre-sorted by the customer based on the local parameters of the place of posting. This channel was introduced with effect from 1 July 1994 as a measure to de-congest the network and avoid delay to household mail.

(e) *Bulk Mail Channel*—Postings exceeding 250 articles in case of registered mail or 2,000 pieces of unregistered mail are called bulk mail postings. Bulk mail has to be necessarily pre-sorted in registered bundles (for registered mail)

and labeled bundles (for unregistered mail) as per the specified sorting pattern. There are designated post-offices called Corporate Post Offices which are authorised to accept bulk mail.

(f) *Periodical Channel*—This is a separate channel to ensure speedy transmission of newspapers and periodicals which are time-sensitive and are posted in bulk. This channel is operated in metro cities and major towns where heavy volume of such mail is received.

MODERNISATION OF MAIL TRANSMISSION AND PROCESSING

SATELLITE NETWORK

One hundred and fifty High Speed Very Small Aperture Terminals (VSAT) are being added to the existing 77 systems. With this the private network would consist of 227 VSAT stations and 1,350 Extended Stations. With the addition of 400 offices with capability to link to VSAT stations 1,977 post offices would be linked through this VSAT network to handle money orders and other related financial transactions.

MONEY ORDER

The money order service was introduced in 1880. Under the ordinary money order scheme, remittance of an amount up to Rs 5,000 can be made through each money order. In 1999-2000, 11.37 crore money orders were booked for Rs 5,707.94 crore.

AUTOMATIC MAIL PROCESSING CENTRES

Kolkata and Delhi would be put on the map of Automatic Mail Processing Centres with the induction of state-of-the-art letter-sorting machines. These two and the existing centres at Chennai and Mumbai would have additional equipment to cull, face and cancel the mail automatically.

POST OFFICE COMPUTERISATION

There are 400 head post offices fully computerised. In addition multi purpose machines to handle the counter operations have been installed in 1,950 post offices across the country. By March 2002, 100 more head post offices would be handling all operations through computers on full induction of technology.

NEW SERVICES

(i) *ePost*: A new service ePost has been introduced recently to cater to the customers who do not have PC or Internet. This facility is available at 203 sites in Andhra Pradesh, Gujarat, Goa, Kerala and Maharashtra. (b) *Bill Post*: For the facility of paying for different services under one roof, the Department of Posts is introducing a new service called Bill Post. This Web-based application would make the bill data of various service providers—government and private—at PO counters available on the Internet. The customer can pay for all services he uses—telephone, mobile phone, electricity, water supply, municipal taxes, etc.—at one window and (c) *Certifying Authority*: The

Department intends to become a trusted third party and issue digital signatures to the citizens. With this, the customers would be able to transact electronically for most of their requirements in a secure environment.

PREMIUM PRODUCTS

A Business Development Directorate was set up on 1 February 1996 with the objective of marketing and promoting premium services for meeting the needs of specific customer segments. These are : (i) *Speed Post* : The Speed Post service was introduced on 1 August 1986. Under this service, letters, documents and parcels are delivered fast within a given time-frame, failing which full refund of postage is made. The Speed-Post network connects 120 national, 494 State Speed-Post centres and for 97 foreign countries. A contractual speed-post service, free pick-up service, book-now-pay-later schemes, insurance service and other value-added services are also available under the Speed-Post Service for regular and corporate customers. (ii) *Express Post* : The Express Post was relaunched with improved features on 1 March 1999 to provide a reliable and time-bound parcel service through surface transport. It provides door-to-door service, distance-based tariff, weight limit up to 35 kg, assured delivery and VPP service up to Rs 50,000. The Express Parcel Post caters to corporate users and business establishments. Express Parcel can be booked in 100 cities of the country where National Speed Post Centres are available. (iii) *Business Post* : The Department launched Business Post with effect from 1 January 1997 to meet the specific needs of big mailers. It provides mailing solutions for customers by offering pre-mailing services including collection, insertion, sealing and franking, etc. This service is available at 42 cities across the country at offices called 'Business Post Centres'. Desktop inserting systems have been installed at Business Post Centres in Chennai, Delhi, Mumbai and Pune. (iv) *Media Post* : The Department offers a unique media concept to help the Corporates and the Government organisations reach potential customers through Media Post. Customers can use the following for their branding exercise : (a) Advertisement on postcards, inland letters, aerogrammes and other postal stationery; and (b) Space sponsorship options on letter boxes. (v) *Satellite Post* : Satellite Post provides electronic mail service to the customers by linking e-mail with the postal delivery. While the message is transmitted through VSATs by using computer network, the hard copy is delivered to the customers through Speed Post. Seventy five major towns in India are linked through Satellite Post network. (vi) *Retail Post* : With a vast network of post offices, India Post offers Retail Post for collection of electricity bills, telephone bills, water bills, examination fees and other services on commission basis. (vii) *Greeting Post* : The Department launched the pre-paid postage envelopes and greeting cards in September 2000. This greeting card is 'Buy & Post' product unlike ordinary greeting cards. It is also a philatelic collectible; and (viii) *Data Post* : Data Post has been started in Bangalore and Hyderabad as pilot projects. The product envisages the collection of household details through an elaborate questionnaire. This information is housed in a data warehouse.

POST SHOPPES

In 1994-95 a scheme of opening of Post Shoppes within the premises of certain important post offices functioning in departmental buildings was introduced. The Post Shoppes sell items of stationery, greeting cards and small gift items. There are 26 such post shoppes in various post offices across the country.

PHILATELY

Special and commemorative postage stamps issued by the Department cover a wide range of themes reflecting the rich natural and cultural heritage of the country. Important national/international events, famous personalities, institutions, etc., are honoured through the medium of commemorative postage stamps. These stamps enjoy wide popularity in the world of philately. The Department also provides items of stationery like inland letter cards, post-cards, competition post-cards, envelopes, aerogrammes and registration envelopes printed by India Security Press, Nashik and the Security Printing Press, Hyderabad. The services of printers in the private sector having the requisite capacity, competence and state-of-the-art technology have also been utilised for production of stamps and stationery. During 2000, the Department issued 68 commemorative/special postage stamps, earning revenue of more than Rs 28 crore. These stamps are marketed through 55 philatelic bureaux and 850 philatelic counters in the country.

INTERNATIONAL MAILS

India has been a member of the Universal Postal Union (UPU) since 1876 and of the Asian Pacific Postal Union (APPU) since 1964. These organisations aim at extending, facilitating and improving postal relations among member countries. India exchanges mail with more than two hundred countries by air and surface. With a view to improving the quality of surface mail, India initially introduced the Surface Air Lifted (SAL) Mail Service in respect of letters and parcels to four destinations, namely, Germany, Great Britain, Singapore and the United States of America. In respect of parcels, this service has now been extended to 38 countries. This service involves dispatch of surface mail by air with reduced priority and postage in order to improve the quality of service.

Money can be remitted from selected foreign countries to India by way of Money Orders and Postal Orders. India has Money Order Service with 29 countries. India has a two-way Money Order Service with Bhutan and Nepal wherein Money Orders can be sent to and received from these countries. With the remaining 27 countries, inward service only is available where Money Orders booked in these countries can be paid in India. The British Postal Orders and Irish Postal Orders are encashable at selected Post Offices.

International EMS started in 1986 with five countries has now been extended to 97 countries.

With a view to facilitating export and import to and from foreign

destinations, principal foreign offices of exchange have been set up at Mumbai, Kolkata, Chennai and New Delhi. In addition, five sub-foreign Post Offices have been established at Ahmedabad, Bangalore, Jaipur, Cochin and Srinagar for both import and export. Export Extension Windows have also been made operative at Varanasi, Kanpur, Surat, Noida, Agra, Ludhiana and Guwahati to cater to the needs of the exporters/tourists of these areas.

AGENCY FUNCTIONS

POST OFFICE SAVINGS BANK

Post Office Savings Bank (POSB) has a customer base of 11 crore account holders with annual deposits exceeding Rs 70,000 crore and a network of 1,50,389 branches. The outstanding balance under all national savings schemes in post offices stood at Rs 2,18,695.15 crore by March 2001.

The post office recently entered into a partnership with a multi national company, Western Union Financial Services International to provide its customers access to instantaneous international money transfers. This new service allows money transfer to India from 188 countries on a real time basis. The service is currently available in more than 250 post offices.

Mutual Funds and Securities — Another new initiative of the Post Office is its partnership with IDBI Principal, Prudential ICICI and SBI Mutual Funds for distribution of mutual funds through its network. This service is available from more than 200 post offices covering all the State and Union Territory capitals.

POSTAL LIFE INSURANCE

Postal Life Insurance (PLI), was introduced in 1884 for postal employees. Over the years it has been extended to the employees of Central, State-governments, public sector undertakings, universities, Government-aided institutes, nationalised banks, financial institutions and extra departmental agents of the Postal Department. PLI offers five Insurance Plans, namely *Suraksha* (Whole Life Assurance), *Suvidha* (Convertible Whole Life Assurance), *Santosh* (Endowment Assurance), *Sumangal* (Anticipated Endowment Assurance) and *Yugal Suraksha* (Joint Life Endowment Assurance).

Rural Postal Life Insurance (RPLI) was introduced with effect from 24 March 1995 to provide insurance cover at a low premium to the rural masses and to the weaker sections of the society. There are five types of policies, namely, *Suraksha*, *Suvidha*, *Santhosh*, *Sumangal* and 10-year, Rural PLI.

During 2000-2001, the business of Rs 1,263.33 crore in respect of 1,48,201 PLI policies and Rs 705.66 crore in respect of 1,67,771 RPLI policies was secured.

HUMAN RESOURCE DEVELOPMENT

The Department with about 2.92 lakh departmental employees and about 3.09 lakh extra-departmental agents has a well-developed training infrastructure. At the apex is the Postal Staff College, Ghaziabad to meet the training and developmental needs of the postal executive cadres and also organises workshops on different aspects of the Post. The Postal Training Centres at Darbhanga, Madurai, Mysore, Saharanpur and Vadodara impart induction and in-service training to the postal operative and supervisory cadres.

TELECOMMUNICATIONS

Telecommunication services were introduced in India soon after invention of telegraphy and telephone. First Telegraph line between Kolkata and Diamond Harbour was opened for traffic in 1851. By March 1884, telegraph messages could be sent from Agra to Kolkata. By 1900, telegraph and telephone had started serving Indian Railways. As in the case of telegraph, telephone service was also introduced in Kolkata in 1881-82, barely six years after invention of telephone. First automatic exchange was commissioned at Shimla in 1913-14 with a capacity of 700 lines.

The Department of Telecommunications (DoT) has improved significantly since independence both in quality and quantity. The number of exchanges, which was around 300, increased to 31,952 by March 2001. Initially, the exchanges were of manual type, which subsequently were upgraded into automatic electro-mechanical type. In the last one and-a-half decades, a significant qualitative improvement has been brought about by inducting Digital Electronic Exchanges in the network on a large scale. Today 100 per cent telephone exchanges in the country are of electronic type.

As on 31 March 2001, India has one of the largest telecom networks in Asia comprising 31,952 telephone exchanges, with a total equipped capacity of 39.91 million lines and 32.44 million working telephones. The long-distance transmission network has about 1,69,000 route km of radio systems, and about 2,26,651 route km of optical fibre systems. Fully automatic International Subscriber Dialling (ISD) service is available to almost all the countries. The total number of stations connected to National Subscriber Dialling (NSD) is over 21,570. In the field of international communications, tremendous progress was made by the use of Satellite Communication and Submarine links. The voice and non-voice telecom services, which include data transmission, facsimile, mobile radio, radio paging and leased line services, cater to a variety of needs of both residential and business customers. ISDN facility is available in a number of cities. A dedicated Packet Switched Public Data Network with international access for computer communication services is also made available. More than 4.09 lakh of the total of over six lakh villages in the country have been covered with telephone facility.

With the opening of Telecom sector to private investment and establishment of independent regulator, the matter of separation of service provision functions of the DOT and providing a level playing field to various

service providers including the Government service provider, had been engaging the attention of the Government. Accordingly, with effect from 1 October 2000 a new Public Sector Undertaking *viz.*, Bharat Sanchar Nigam Limited (BSNL), was formed to take over all the service providing functions of the erstwhile Department of Telecommunications all over the country.

BASIC SERVICE

Based on the recommendations of Telecom Regulatory Authority of India (TRAI), the Government announced guidelines on 25 January 2001 for issue of licences with unrestricted open entry of new Basic Service Operators in all the Service areas including the six service areas where private licensees already existed. As per these guidelines, the usage of handheld sets by the subscribers of Basic Telephone Service providers has been permitted under wireless subscriber access systems in the local areas and not more than 5+5 MHz spectrum in designated/prescribed frequency bands for these systems can be allocated to any basic service operator including the existing ones on first-come-first served basis.

NATIONAL LONG DISTANCE SERVICE

As envisaged in the New Telecom Policy, 1999, National Long Distance Service (NLDS) was opened to private sector with effect from 13 August 2000. Indian registered companies are eligible to apply for NLDS licence and only one licence will be issued to one eligible company. The licence is issued on non-exclusive basis without any restriction on the number of players. FDI up to 49 per cent is permitted in the service. For coverage of remote and uneconomic area, the applicant company is required to submit a rollout plan indicating the names of LDCAs in each telecom circle including remote and uneconomic area for coverage in four phases.

INFRASTRUCTURE PROVIDERS

Two categories of infrastructure providers, called IP-I and IP-II, have also been recognised and opened to private sector with effect from 13 August 2000. The infrastructure providers category IP-I shall provide assets such as Dark Fibres, Right of Way, Duct Space and Tower on lease/rent-out/sale basis to the licensees of telecom services on mutually agreed terms and conditions. An Indian registered company willing to be an IP-I is required to register with the Department of Telecommunications. The infrastructure providers category IP-II are those who are given licence to lease/rent-out/sell end-to-end bandwidth, *i.e.*, digital transmission capacity capable of carrying a message. Any Indian registered company fulfilling the required eligibility conditions can get licence for IP-II, which is awarded, on non-exclusive basis without any restriction on the number of entrants. FDI up to 74 per cent is permitted in the service.

VALUE ADDED SERVICES

The New Telecom Policy-1999 (NTP-99) looks at the telecom sector as follows: Cellular Mobile Service Providers, Fixed Service Providers and Cable Service

Providers, collectively referred to as "Access Providers"; Radio Paging Service Providers; Public Mobile Radio Trunking Service Providers; National Long Distance Operators; International Long Distance Operators; Other Service Providers; Global Mobile Personal Communication by Satellite (GMPCS) Service Providers; and VSAT-based Service Providers. Further licences for Value Added Services will be issued in terms of NTP-99.

CELLULAR MOBILE TELEPHONE SERVICE

Services have started in all the metro cities and select cities in 18 Circles. There are about 42.89 lakh cellular customers in the country as on 31 July 2001.

The existing licensees of Cellular Services were permitted migration to NTP-99 regime of revenue sharing with effect from 1 August 1999. MTNL and BSNL have been given licence for operation of technology neutral Cellular Mobile Telephone Service in various parts of the country. The service has become operational in New Delhi and Mumbai by MTNL and in Bihar Circle by BSNL. In terms of the New Policy, the cellular operators shall be free to provide, in their area of operation all type of mobile services including voice and non-voice messages, data services and PCOs utilising any type of network equipment, including circuit and/or package switches that meets the relevant Interface requirements and standards of International Telecom Union (ITU)/Telecom Engineering Centre (TEC).

Internet Services: Internet Services have been opened up for private participation since November 1998. The licence fee up to 31 October 2003 has been waived and from 1 November 2003 the licence fee is only Re one per annum. Any Indian Registered Company is eligible for getting the licence and no prior experience is required. Foreign equity up to 100 per cent is permitted in Internet Service Providers (ISPs) with gateways. So far 470 ISP licences have been issued. There are about 32 lakh Internet subscribers.

Public Mobile Radio Trunked Services: 55 licence agreements signed with 17 companies for operation of PMRTS in 26 cities are current. The service has already commenced in all the 26 cities. The policy for issue of new licences in terms of NTP-99 is under finalisation.

Voice Mail/Audiotex Service: Five licences signed with four companies for five cities are current. The service is available in five cities by four companies. New policy for Voice Mail/Audiotex/unified messaging Service has been approved in terms of NTP-99. The licensees have not to pay any licence fee at present; only a PBG of Rs three lakh is required to be submitted along with application form.

Global Mobile Personal Communication by Satellite Service: The Government of India took a policy decision on 26 August 1998 for introduction of the Global Mobile Personal Communication by Satellite Services (GMPCS) in the country. As per this decision, Indian companies with up to 49 per cent

foreign equity will be issued licences on non-exclusive basis subject to clearance of individual proposals from security angle. A provisional licence agreement was issued on 28 October 1998 to M/s Iridium India Telecom Limited. However, the service ceased to operate with effect from 18 March 2000 due to non-availability of satellite infrastructure from M/s Iridium LLC, USA. LOI for the service has been issued to M/s ASC Enterprises Limited, and Shyam ACeS India Private Limited. Terms and conditions for GMPCS licence are under finalisation.

TRAINING INFRASTRUCTURE

The Indian Telecom Administration employs about 4,21,360 personnel as on 31 March 2000. Telecom personnel are regularly enlisted in training programmes to upgrade their skills, knowledge and managerial effectiveness. India has set up a vast network of 44 Telecommunication Training Centres. Starting at the apex are the Advanced Level Telecom Training Centre (ALTTC) at Ghaziabad and Bharat Ratna Bhim Rao Ambedkar Institute of Telecom Training at Jabalpur followed by 42 Telecom Training Centres at regional, state and district levels for imparting training to the personnel in technical, managerial, traffic, building science and finance branches of Telecom Services. Trainees from foreign telecom administrations and entities are also admitted to these centres. Keeping in view the training needs of managers of BSNL, a National Academy of Telecom Finance & Management has been set up at Hyderabad.

Advanced Level Telecom Training Centre, Ghaziabad, an apex level training institution was established by the Government of India in 1975. The Centre develops and imparts training in high-tech telecommunications and modern management practices for the base, middle and top-level engineers and managers of the Government of India and countries of South East Asia & ESCAP region, including English-speaking countries of Far East, middle East and Africa. It functions as a resource centre in providing developed course materials, audio-visual instructional aids, computer-based training, software support and training of trainers. Over 3,500 officers are trained annually in the centre including trainees from foreign countries.

TELECOM ENGINEERING CENTRE

The Telecommunication Engineering Centre (TEC) is an S&T institution. It works as a part of Department of Telecommunications. With headquarter at New Delhi, it has regional centres at New Delhi, Kolkata, Mumbai, Bangalore and Hyderabad. Its role and objectives are : (i) standardisation, drawing up of generic requirements for telecom products, equipment, systems, service, and networks; (ii) coordination and evaluation of new products, equipment, and systems developed by all development agencies; (iii) support to field units for local network and to Telecom Commission for the National Network Planning; and (iv) providing engineering support to the public sector BSNL/MTNL in tender evaluation, trial of equipment and adoption for the network.

TEC accords various kinds of approvals after the evaluation of products. It has also been designated as nodal agency for testing of the various value added licensed private networks and their point of interconnect of the telephone services being set up by licensed private operators. The technical and engineering support to Telecom Commission and field units is one of the important activities of TEC.

TELECOM QUALITY ASSURANCE WING

The Telecom Quality Assurance Circle was set up in 1979, initially as a part of T&D Circle and subsequently in 1986, as an independent body. The objective of the Circle is to define Quality Parameters, laying down Quality Assurance procedures and resolving quality-related problems in the course of factory QA testing of Telecom equipments and network products and those reported from field units.

CENTRE FOR DEVELOPMENT OF TELEMATICS

The Centre for Development of Telematics (C-DOT), an autonomous registered society, was set up in 1984 with the objective of developing a new generation of switching systems relevant to the Indian conditions. Its sphere of operations was widened in 1989 when it was entrusted with the development of transmission systems. C-DOT has developed a range of cost-effective products with the built-in qualities of upgradability and ruggedness to withstand extreme environmental conditions relevant to the Indian Network. C-DOT is today recognised as a pioneer in the field of rural telecommunications. Currently, there are 31,000 exchanges working in the rural areas.

For urban and semi-urban use, a family of Digital Switching System (DSS) from 1,500 lines to 40,000 lines has been developed, named as C-DOT DSS MAX (Main Automatic Exchange). The C-DOT DSS MAX products have the proven ability to serve as local, toll, transit and Integrated Local-cum-Transit (ILT) switches. These exchanges can currently handle traffic of 8,00,000 call attempts in one hour.

New features and services are continuously added to increase the utility and relevance of these systems. In the area of transmission, C-DOT has developed low capacity digital radio technologies for inter-connecting rural and urban exchanges; satellite systems for integrated voice and data communications, digital multiplexes and optical communication systems. Besides, C-DOT supports more than 20 manufacturers for its various products and more than 650 vendors, who in turn, support these manufacturers by way of components and subsystems. Significantly, C-DOT products have proliferated throughout the country with about 1.5 crore C-DOT exchange lines currently operational in the network.

C-DOT products have been exported to Bangladesh, Nepal, Vietnam, Ethiopia, Russia, Uganda, Ghana, Angola, Namibia, Nigeria and Yemen. C-DOT technologies are given in table 23.1.

TABLE 23.1 : C-DOT TECHNOLOGIES

Already Developed	Under Development
Small capacity Rural Automatic Exchanges (up to 250 lines)	Telecom Management Network
Medium capacity Main Automatic Exchanges (up to, 1,500 lines)	Development of Personnel Communication System
Large capacity Main Automatic Exchanges (1,500 to 40,000 lines)	Higher Erlang Capacity Switch
CCS7 support on Medium & Large capacity exchanges	SBM Exchange Catering to up to 4K subscribers
ISDN for MAX family of switches	Fibre Access Systems
Intelligent Networks	64 Kbps integrated voice and data VSAT in KU band
ATM Switch	Internet Telephony Gateway Switch
Remote Switching Unit support on Medium & Large capacity exchanges	SDH Family Products
Remote Line Concentrator : RLC (Large Capacity)	CDMA Technology Based WILL (Broad Band)
V 5.1/2 interface for C-DOT switches	Internet Point of Presence
Telecom Management Centre for remote operation & maintenance of exchanges	ADSL Connectivity
New ISDN Services	Wavelength Division Multiplexing (WDM)
Integration of V5.2 with ISDN Protocol in MAX	
Internet Application Over ISDN Terminal Equipment	
10 Channel Digital UHF System in 600 MHz band	
TDMA point to multi-point radio	
2nd and 3rd order Digital Multiplexes	
8 Mbps Optical Line Terminating Equipment	
3x10 channel digital Multiplexes	
64 Kbps integrated voice and data VSAT in C and extended C band	
MCPC VSAT in C Band	
High Data Rate VSATs	
Mobile Satellite Systems (INSAT MSS)	
Optical Amplifier System	
2-34 Mbps OPTIMUX	
Wireless in Local Loop & Multi Access Radio	

WIRELESS PLANNING AND COORDINATION WING

Wireless Planning and Coordination Wing (WPC), established in 1952, is the national radio-regulatory authority responsible for coordination and regulation of radio spectrum-usages in the country. It is a nodal agency for all matters concerning International Telecommunications Union (ITU), a specialised agency of the United Nations for all telecommunication matters and Asia Pacific Telecommunity (APT), an inter-governmental organisation of the region. WPC assisted by its Monitoring Organisation performs all functions relating to planning, coordination, assignment, regulations and administration of the uses of the radio frequencies in India, clears site for installation of wireless stations and issues licences for establishment, maintenance and working of wireless stations in India, under the Indian Telegraph Act, 1885. It is responsible for all matters concerning assignment of frequencies for all terrestrial, Geo-stationary Satellite Orbit (GSO) and non-GSO based satellite networks, including positions in GSO and necessary coordination in this regard both at national and international levels. It also conducts examinations to award certificates of proficiency for aeronautical and maritime mobile services and for radio-amateurs. The decision of the Government of India to make available basic services as well as certain value-added services on franchise basis, e.g., cellular mobile telephone, radio paging, VSAT, IT & ISP, and radio trunking has created a large demand for the use of radio spectrum.

PUBLIC SECTOR UNDERTAKINGS

BHARAT SANCHAR NIGAM LIMITED

Bharat Sanchar Nigam Limited (BSNL) was formed on 1 October 2000 by corporatisation of the erstwhile Department of Telecom Services. It is a 100 per cent Government of India-owned PSU with an authorized capital of Rs 10,000 crore, a paid-up capital of Rs 5,000 crore, a net worth of Rs 63,000 crore, a skilled work force of approximately 3.6 lakh and an annual revenue of approximately Rs 20,354 crore, making it the largest PSU in the country. The company has taken over the erstwhile functions of the Department of Telecom in respect of provision of telecom services throughout the country. A technology-oriented company, BSNL has the mandate of providing all types of telecom services with state-of-art technology, provision of telephones and bandwidth on demand and provision of at least one public telephone in every village in the country by 2002. As per the NTP-99, the telephone density in the country has to be increased from the present level of 3.5 to 7 by March 2005 and 15 by March 2010. More than 4.09 lakh villages in the country have been covered with telephone facility.

BSNL is entering the Cellular mobile telephone services and would be providing a total of 4 million lines by the end of March 2003. The BSNL has also gone in a big way for provision of Wireless in Local Loop (WLL) services in both the rural and the urban areas with the objective of providing limited mobility in the major urban centres during the current year itself.

MAHANAGAR TELEPHONE NIGAM LIMITED

The Mahanagar Telephone Nigam Limited (MTNL) came into existence on 1 April 1986 as a company wholly owned by the Government of India under the Department of Telecommunications, Ministry of Communications. MTNL has been entrusted with the management, control and operations of telecom services, (excluding public telegraph service) in metropolitan limits of Mumbai (including New Mumbai and Thane) and Delhi.

The last decade and a half has been an eventful period in the existence of MTNL. There has been all-round development and growth and improved operational efficiency. MTNL provides a host of Telecom Services like fixed telephone services, GSM based Mobile service, CDMA based Wireless in Local Loop, Internet and Leased line Services. The network of MTNL is fully digital. MTNL has 203 telephone exchanges in Delhi and 160 in Mumbai. The total Switching capacity is 5.12 million and MTNL is operating 4.33 million direct exchange lines with a total number of working stations as 5.6 million. MTNL is also providing a total of 36,742 leased lines and 28,550 ISDN connections. MTNL started GSM based Cellular Mobile Telephone Service in 2001 both in Delhi and Mumbai under the brand name 'DOLPHIN'. Introduction of this service resulted in the decrease of tariffs by the private operators by almost 50 per cent. In addition to the telephone service, MTNL is providing a variety of IN based and Phone-plus services. These include Premium Rate Service, Pre-paid Service, Virtual Private Network, Universal Number, Televoting, etc, which are based on the Intelligent Network Platform and phone plus services such as Computerised morning alarm, Voice Mail, Call forwarding Call Waiting, etc. Payments of bills by subscribers through Internet, through Master Card at selected petrol pumps and through Automatic Teller Machines have also been introduced.

The authorised equity share capital of the company is Rs 800 crore. The paid-up capital is Rs 630 crore which includes Rs 30 crore by way of GDR issue. The Government of India now owns 56.25 per cent of the MTNL paid-up capital.

VIDESH SANCHAR NIGAM LIMITED

Videsh Sanchar Nigam Limited (VSNL) is India's exclusive provider of international telecommunications and enjoys monopoly in international telecommunications services till 31 March 2002. Presently, Government shareholding in VSNL is 52.97 per cent. However, Government has plans to dilute its holding this year by selling 25 per cent to the strategic partner, 1.97 per cent to its employees and keeping the balance 26 per cent with itself. The process in this regard has already started.

VSNL provides both basic and value-added services such as television transmission/reception, high speed digital leased lines, Gateway Packet Switching, E-mail, Electronic Data Interchange, Frame Relay, Internet Access, ISDN Services and video-conferencing, etc. VSNL's international connectivity is achieved through its eight gateways located at Mumbai, New Delhi, Kolkata, Chennai, Jalandhar, Gandhinagar, Ernakulam and Kanpur. VSNL

operates 38 satellite earth stations at 23 locations, analogue cable systems ICOM and Gulf cables, three optical fibre sub-oceanic cable system, SEA-ME-WE2, FLAG and SEA-ME-WE3; and fourth cable, SAFE is going to be operational by the end of 2001.

VSNL obtained all India Internet service provider licence recently and operates 12 Internet nodes in India and it is going to expand up to 22 by the end of 2001. VSNL has been India's largest Internet Service Provider (ISP) for the last five years, with over 6.5 lakh customer base. VSNL provides required connectivity to other ISPs in the country.

VSNL is India's signatory in international fora like INMARSAT, INTELSAT. INMARSAT has been restructured as Inmarsat Holdings Limited and Intelsat is ready to be privatised very soon. Other major projects of VSNL now on anvil include National Long Distance services, Direct to Home Services (DTH), SAFE cable, business network, Asynchronous Transfer Mode (ATM) switches, Network Management system, video uplinking facility, High capacity Internet exchange and Digital TV uplinking system at Standard A earth station. This provides VSNL with the opportunity to play a pivotal role in the future of international telecommunications and India's business integration with the communication. VSNL had successfully raised funds from the international market from its two GDR issues, the first one for US \$527 million in 1997 and the second for US \$ 185 million in 1999. The second issue was a disinvestment by the Government of India. In the six years (1996-2001), the revenues and net profit have grown at CAGR of 12.02 per cent and 31.01 per cent respectively and company's market capitalisation stands at Rs 832.2 crore. To ensure future growth, VSNL has a five-year programme of investment of over Rs 7,300 crore in further infrastructure, platforms of the future and other strategic initiatives.

Consequent to the liberalisation of Broadcasting Policy by the Government, VSNL has provided satellite uplinking facility to a number of private operators which include TVN7, TV18, Zee, Raj TV, MCPC, Vijay TV, Asianet TV, Kairali, Jaya TV, NDTV, Sahara TV, etc. VSNL also provides point-to-point transmission facilities to Star TV and Zee TV. VSNL's major initiatives include additional gateways at international traffic-generating centres, expansion of Internet services pouring to additional cities and additional facilities to enhance information super highways, cellular, DTH, ATM and NLD services in the international telecom field. VSNL is MoU signing Government Company since 1991-92 and has been ranked 'excellent' for the last seven years.

INDIAN TELEPHONE INDUSTRIES LIMITED

The Indian Telephone Industries (ITI) Limited, Bangalore was set up in 1948. The company has an annual turnover exceeding Rs 2,000 crore. ITI has contributed more than 70 per cent of the existing telecom network in the country.

The company offers the entire range of telecom equipment covering the whole spectrum of Switching (large and rural switches), Transmission (digital

microwave, fibre optic and backbone products), Access Products/Subscriber Premises equipment. The products and services of ITI have established a track record for dependability in sectors like defence, railways, power, oil, etc. ITI offers the latest telecom solutions and customised support to a variety of businesses by virtue of its strong in-house R&D, select collaborations and strategic alliances with global leaders. The Company is consolidating its diversification into IT and IT-enabled services by employing its vast telecom expertise and infrastructure.

HINDUSTAN TELEPRINTERS LIMITED

The Hindustan Teleprinters Limited (HTL) was set up in 1960 in Chennai for manufacture of teleprinters to serve the Telegraph and Telex Networks of the DOT. The company produced and supplied 0.2 M teleprinters till 1994. The company entered into the fields of Digital Electronic Switching Equipment, Transmission Equipment, Data Terminals & Access Products, Main Distribution frames, PCO Monitors, Line Jack Units, etc. The company has now grown into an advanced telecommunications manufacturer with export status, ISO 9001 Certification. HTL is a fully owned Government company with a paid up capital of Rs 15 crore and authorised capital of Rs 20 crore. The turnover of the Company for the year 2000-2001 is Rs 46,870 lakh.

TELECOMMUNICATIONS CONSULTANTS INDIA LIMITED

Telecommunications Consultants India Limited (TCIL) set up in 1978 is now a multi-disciplinary Telecom organisation which provides complete Telecom solution — from concept to completion. The core competence of the Company is in network projects, software support, switching & transmission system, cellular services, rural telecommunications, optical fibre-based back bone network, etc. The company is planning to enter into Global Mobile Personal Communications via Satellite.

TCIL has its operations spread over the Middle East, South East Asia, Africa, Europe and Central Asia. Present operations are in Meritorious, Sri Lanka, Madagascar, Indonesia, Saudi Arabia, Kuwait, Ghana, Yemen, Oman, Zimbabwe, Malawi, Botswana, Ethiopia, Comoros, Mozambique, Netherlands, Syria, Nigeria, Togo, Khyrghistan, East Timor, Kosovo, Lebanon, Congo and Sierra Leone. Starting with an equity of Rs 10 lakh in 1978, the company today has a net worth of Rs 323 crore with a turn over of Rs 770 crore.

24 Labour

LABOUR policy in India has been evolving in response to the requirements of planned economic development and social justice and has a two-fold objective, *viz.*, maintaining industrial peace and promoting the welfare of labour.

MINIMUM WAGES ACT, 1948

The Minimum Wages Act, 1948 provides for fixation/revision and review of minimum wages mainly in the unorganised sector. Under the Act, both Central and State Governments are appropriate Governments for fixation/revision of minimum wages in respect of the scheduled employments under their respective jurisdictions. The Central Government has 45 scheduled employments, while the number of these employments in the State sphere is 1,254.

In so far as the revision of minimum wages in respect of the scheduled employments in the Central sphere is concerned the minimum wages of agricultural labour were revised vide Notification No. S.O.1085(E) dated 11 November 1999. Preliminary notification in respect of three mines which have been newly added to the schedule of employments, was issued on 28 December 1999. With regard to other mines, the preliminary notification proposing to revise the minimum rates of wages and seeking objections/suggestions from the organisations/individuals was issued on 29 March 2000. Issue of final notification of the said employments is under process.

Regarding employments in construction or maintenance of road/runways or in building operations including laying down underground electric, wireless, radio, television, telephone, telegraph and overseas communication cable and similar other underground cabling work, electric lines, water supply lines and sewage pipe lines, etc., the preliminary notification was issued on 5 April 2000. Issue of final notification of the said employments is under process.

A new employment of watch and ward through Private Security Services or directly by the employer in all Public Sector Enterprises has been added in the schedule in the Central sphere vide Gazette Notification No. S.O.216(E) dated 12 March 2001. The minimum Wage of the workers employed in this scheduled employment is being fixed.

The Central Government has introduced Variable Dearness Allowance (VDA), which is linked to Consumer Price Index (CPI). The VDA is revised every six months effective from 1 April and 1 October. As regards the States, 22 States/Union Territory administrations have already adopted the VDA as a component of minimum wage.

In the absence of a uniform National Minimum wages, a floor-level

minimum wage, has been introduced by the Centre. The floor-level minimum wage was raised from Rs 40 to Rs 45 per day with effect from 30 November 1999. Proposals to make amendments to the Minimum Wages Act are under consideration of the Government.

PAYMENT OF WAGES ACT, 1936

The Payment of wages Act, 1936 was enacted to regulate the payment of wages to certain classes of persons employed in industry with the object of providing for a speedy and effective remedy to the employees arising out of illegal deductions or unjustified delay made in paying the wages to them. At present the Act applies only to those whose wage-average is below Rs 1,600.

The Central Government is responsible for the administration of the Act in railways, mines, oilfields and air transport services, while State Governments are responsible in factories and other industrial establishments. In respect of the major ports of Mumbai, Kolkata, Visakhapatnam, Chennai, Kerala, Cochin, Paradeep and Mormugao, the States Governments have, however, appointed officers of the Central Industrial Machinery as inspectors for enforcing the Act. The Government is considering various proposals to amend the Act including abolition/enhancement of the ceiling of Rs 1,600 per month.

WAGE BOARDS

In the 1950s and 60s, when the organised labour sector was at a nascent stage of its development without adequate unionisation or with trade unions without adequate bargaining power, the Government constituted various Wage Boards. The Wage Boards are tripartite in character in which representatives of workers, employers and independent members participate and finalise the recommendations. The utility and contribution of such boards in the present context are not beyond question. Except for the Wage Boards for Journalists and Non-journalist newspaper and News-agency employees, all other Wage Boards are non-statutory in nature. Therefore, recommendations made by these Wage Boards are not enforceable under the Law.

The importance of the non-statutory Wage Boards, has consequently declined over a period of time and no non-statutory Wage Board has been set up after 1966, except for the sugar industry, where the last such Wage Board was constituted in 1985. The trade unions, having grown in strength in these industries, are themselves able to negotiate their wages with the management. This trend is likely to continue in future.

WAGE BOARD FOR NEWSPAPER EMPLOYEES

The Working Journalists and Other Newspaper Employees (Conditions of Service) and Miscellaneous Provisions Act, 1955 regulates conditions of service of working journalists and other persons employed in newspaper establishments. The Act provides for the setting up of Wage Boards for fixation and revision of rates of wages in respect of working journalists, newspaper/news agency employees. In the past, the Wage Boards for such employees

were set up in the years 1956, 1963, 1975 and 1985. The Wage Boards set up in 1985 under the Chairmanship of Justice U.N. Bachawat submitted its final report in May 1989. The Government accepted the main recommendations of Bachawat Wage Boards and the State Governments were requested to implement the recommendations and were also advised to establish tripartite committees/special cells at the state level in this regard. As per information received from the State Governments as on 31 October 2000, out of 1,714 newspaper establishments throughout the country, 645 have fully implemented and 26 partially implemented the recommendations of Bachawat Wage Boards.

The Government, in September 1994, again constituted two Wage Boards- one for the working journalists and the other for the non-journalist newspaper and news-agency employees under the common Chairmanship of retired Chief Justice Rajkumar Manisana Singh. The Manisana Wage Boards submitted their final recommendations to the Government on 25 July 2000. The Government decided to accept the recommendations of the Boards with minor modifications and notifications to this effect were issued in the Official Gazette vide S.O. Nos. 1086(E) & 1125(E) dated 5 December 2000 and 15 December 2000 respectively. The Government have impressed upon all States/UTs to take effective measures for implementing the recommendations of the Wage Boards. They have been specifically asked to set up Tripartite Committees/Implementation Cells for speedy implementation of the same. The Government is monitoring the implementation of the Wage Board's recommendations.

PAYMENT OF BONUS ACT, 1965

The Payment of Bonus Act, 1965 provides for payment of bonus to employees as defined under the Act. According to the Act, "employees" means any person (other than an apprentice) employed on a salary or wage not exceeding Rs 3,500 per mensem in any industry to do any skilled or unskilled, manual, supervisory, managerial, administrative, technical or clerical work for hire or reward. However, according to Section 12 of the Act, the bonus is payable to employees whose salary or wage exceeds Rs 2,500 per mensem, has to be calculated as if his salary or wage were Rs 2,500 per mensem. The above wage ceilings under Section 2(13) and Section 12 of the Act respectively were last revised vide Payment of Bonus (Amendment) Ordinance, 1995 promulgated on 9 July 1995 and made effective from 1 April 1993. After the amendment of the Payment of Bonus Act, a number of establishments challenged the retrospective effect of the amendment of the Act by filing writ petitions in various High Courts. The Government decided to contest all such cases and in two cases filed in the High Court of Jaipur, the action of Government of India with regard to the retrospectivity of the notification has been upheld by the Hon'ble Court. The Government is now again considering proposals for review of wage ceilings prescribed under Payment of Bonus Act.

CONTRACT LABOUR

The Contract Labour (Regulation and Abolition) Act, 1970 has been enacted to regulate the employment of contract labour in certain establishments and

for matters connected therewith. The Act provides for the constitution of Central and State Advisory Boards to advise the concerned governments on matters arising out of the administration of the Act.

The Central Government have issued a number of notifications prohibiting employment of contract labour in different categories of work, jobs and processes in mines, railways, Food Corporation of India's godowns, port trust, etc. During the year 2000-2001, eight such notifications were issued. After the judgment of Supreme Court in *Air India Statutory Corporation Vs United Labour Union and others* (AIR 1997 Supreme Court 645), the Central Government has also become the 'Appropriate Government' for 129 CPSUs. The 'Appropriate Government' can also exempt an establishment from the applicability of provisions of the Act or notification issued under it. During the year 2000-2001, five establishments have been granted exemption from the applicability of prohibitory notifications.

CHILD LABOUR

India has all along followed a proactive policy in the matter of tackling the problem of child labour, and always stood for constitutional, statutory and developmental measures that are required to eliminate child labour. India has ratified six ILO conventions relating to child labour and three of them as early as in the first quarter of the twentieth century. Action has already been initiated for ratification of ILO Convention No. 182 concerning Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour adopted at the 87th Session of the International Labour Conference. Legislative provisions have been made in various laws to protect children from exploitation at work and to improve their working conditions. In addition, a comprehensive law namely the Child Labour (Prohibition and Regulation) Act, 1986 prohibits employment of children in certain hazardous occupations and processes and regulates their employment in some other areas. Through a Notification dated 27 January 1999, the Schedule to the Act has been substantially enlarged bringing the total number of occupations and processes listed in the Schedule to 13 and 51 respectively. Six more processes have been added recently.

The National Policy on Child Labour was formulated in 1987 which apart from requiring enforcement of legal provisions to protect the interests of children, envisages focussing of general development programmes for the benefit of child labour and project based plan of action in areas of high concentration of child labour. Under the project action plan of the policy, National Child Labour Projects (NCLP) have been set up in different areas to rehabilitate child labour. A major activity undertaken under the NCLP is the establishment of special schools to provide non-formal education, vocational training, supplementary nutrition, etc., to children withdrawn from employment. The programme for the elimination of child labour received further impetus after the announcement of the new programme for the rehabilitation of children working in hazardous employment. Under the programme, 100 projects have been sanctioned to cover around 2.13 lakh working children in Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh,

Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal, and Punjab. The Government has approved continuance of the scheme of NCLP during the Ninth Plan.

The number of working children who have been covered by special schools is a minuscule of the total number of working children waiting to be released and rehabilitated. The ultimate objective of the National Child Labour Projects is to convert working children into productive and participative members of society. Considering the magnitude of the problem and paucity of resources—human, material and financial, a sequential, gradual but integrated approach has been adopted. Voluntary organisations are being financially assisted for taking up welfare projects for working children where they are provided with non-formal education, supplementary nutrition, health care and vocational/skill training. Over 50 voluntary organisations were extended assistance under the scheme during 2000-2001.

The International Programme on the Elimination of Child Labour is global programme launched by the International Labour Organisation in December 1991. India was the first country to join it in 1992 when it signed a MOU with ILO. The project is currently approved till 31 December 2001 and can be extended till 31 December 2002 by mutual agreement.

The Government's commitment to address the problem of child labour is reflected in the announcement made in the National Agenda for Governance (1998). The agenda states that the aim is to ensure that no child remains illiterate, hungry or lacks medical care and that measures will be taken to eliminate child labour.

The Supreme Court of India, in its judgment dated 10 December 1996 in Writ Petition (Civil) No. 465/1986 has given certain directions regarding the manner in which the children working in the hazardous occupations are to be withdrawn from work and rehabilitated as also the manner in which the working conditions of the children working in non-hazardous occupations are to be regulated and improved upon. The important directions given in the judgment include payment of compensation amounting to Rs 20,000 by the offending employers for every child employed in hazardous occupations, constitution of the Child Labour Rehabilitation-cum-Welfare Fund, giving alternative employment to an adult member of the family in place of the child withdrawn from the hazardous occupation or payment of an amount of Rs 5,000 for each child employed in hazardous employment by the appropriate Government, completion of the survey of working children within a period of six months (*i.e.*, by 10 June 1997), payment of interest on the corpus of Rs 25,000 (Rs 20,000 to be paid by the employer and Rs 5,000 to be contributed by the appropriate government) to the family of the child withdrawn from work, provision of education in a suitable institution for the child withdrawn from work, etc. The Government has already initiated steps for giving effect to the directions of the Supreme Court.

WOMEN LABOUR

Women constitute a significant part of the work force of India but they lag behind men in terms of level and quality of employment. The Census of India has registered 22.73 per cent of female population as workers, 90 million in absolute terms out of a total female population of 407 million. The majority of women workers are employed in the rural areas. Amongst rural women workers, 87 per cent are employed in agriculture as labourers and cultivators. Amongst the women workers in the urban areas, 80 per cent are employed in unorganised sectors like household industries, petty trades and services, building and construction, etc. The employment of women in the organised sector (both public and private sectors) as on 31 March 1999 was about 4.826 million. This constitutes 16.4 per cent of the total organised sector employment in the country. The distribution of women employees in major industries reveals that community, social and personal services sectors continued to absorb the majority of women employees. The lowest employment of women was noticed in electricity, gas and water sectors. In factory, mine and plantation establishments women workers constitute 14 per cent, 6 per cent and 51 per cent of the total work force respectively.

The main focus of the policies of the Government with regard to women labour has been to remove the handicaps under which they work, to strengthen their bargaining capacity, to improve their wages and working conditions, to enhance their skills and to open up better employment opportunities for them. A separate cell, namely, Women Labour Cell is functioning in the Ministry of Labour to address these problems. The Maternity Benefit Act, 1961 and Equal Remuneration Act, 1976 are the protective and anti-exploitative legislations which have been enacted to protect and safeguard the interests of women workers at the workplaces. The Equal Remuneration Act stipulates payment of equal remuneration to men and women workers for same and similar nature of work. The Act also prohibits any gender discrimination in recruitment and service conditions. Under the Act, a Committee has been set up at the Centre to advise the Government on providing increasing employment opportunities for women and generally reviewing the steps taken for effective implementation of the Act. Similar Committees have also been set up by the State Governments and Union Territory Administrations. The Central Advisory Committee at the National level and the Advisory Committees at the State level along with competent authorities oversee the process of implementation of the Equal Remuneration Act, 1976.

The Supreme Court of India in its landmark judgment dated 13 August 1997 in the matter of *Visakha and others versus the State of Rajasthan and others* laid down detailed guidelines/norms for prevention of sexual harassment of women workers at work-places. These guidelines have the force of law under Article 141 of the Constitution.

The Government has taken a number of initiatives to give effect to the guidelines laid down by the Supreme Court. These include circulation of the

guidelines for action as indicated therein to all Secretaries to the Government of India/Chief Secretaries of the State Governments/Union Territories, Heads of Central Public Sector Undertakings and employees/employers organisations. Conduct Rules applicable to Government employees and officers of All India Services have been amended to incorporate Supreme Court guidelines. To make them applicable to employees in the private sector, the Industrial Employment (Standing Orders) Act, 1946 has also been amended accordingly.

BONDED LABOUR

Bonded Labour System stands abolished in the country from 1975 through the Bonded Labour System (Abolition) Act, 1976. The Act envisages release of all bonded labourers, liquidation of their debts and their rehabilitation. Incidence of bonded labour system has been reported from 13 States, viz, Arunachal Pradesh, Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh.

Under the Bonded Labour System (Abolition) Act, 1976, identification and release of bonded labourers and rehabilitation of freed bonded labourers is the direct responsibility of the State Government concerned. For the purpose of implementing the provisions of the Act, State Government may confer necessary powers on the District Magistrates. With a view to supplementing efforts of State governments a Centrally-sponsored scheme has been in existence since 1978-79 under which State Governments are provided Central financial assistance for rehabilitation of released bonded labourers. The scheme envisages provision of rehabilitation grant up to a ceiling limit of Rs 20,000 per bonded labourer, half of which is given as Central share. The pattern of assistance under this scheme can be either land-based, non-land based or skill-craft based. A sum of Rs 5,952.74 lakh has been released under this scheme since 1978-79 till 31 March 2001 for rehabilitation of 2,56,825 bonded labourers. The State Governments have also been advised to suitably integrate/dovetail the Centrally-sponsored scheme with other on-going anti-poverty schemes so as to pool the resources for effective rehabilitation of bonded labour.

LABOUR RESEARCH AND TRAINING

V.V. GIRI NATIONAL LABOUR INSTITUTE

V.V. Giri National Labour Institute, Noida (Uttar Pradesh) (earlier known as National Labour Institute), an autonomous body under the Ministry of Labour, Government of India, is engaged in research pertaining to labour and training of labour administrators, trade unions, public-sector managers and other government functionaries concerned with labour. The Institute has focused its attention on child labour also. The Union Minister of Labour is the President of the Institute. The Institute has a 17-member General Council comprising representatives of Central Government, organisations of employers and workers and Members of Parliament and distinguished persons who have

made noteworthy contributions in the field of labour. The General Council elects the Executive Council, which is responsible for the management of the affairs of the Institute. The Chairman of the Executive Council is appointed by the Central Government. At present, Labour Secretary of the Government of India is the Chairman. Director is the principal executive of the Institute.

WORKERS' EDUCATION

Workers' Education programmes are undertaken by the Central Board for Workers' Education (CBWE) established in 1958. It is a tripartite society registered under the Societies Registration Act, 1860, and implements the workers' education programmes at national, regional and unit/village levels. The focus of the education programmes is to create awareness among all sections of the working class about their rights and obligations for their effective participation in the socio-economic development of the country. The Board undertakes training programmes which cover workers from organised, unorganised, rural and informal sectors. Supervisory and managerial cadres are also covered through joint education programmes.

With headquarters at Nagpur, the Board has a network of 49 regional and ten sub-regional centres spread throughout the country. The four zonal directorates at Delhi, Kolkata, Mumbai and Chennai monitor the activities of the regional centres. The Board has set up Indian Institute of Workers Education at Mumbai to conduct national-level training programmes.

WORKERS SAFETY

SAFETY, HEALTH AND WELFARE OF WORKERS IN FACTORIES

The Factories Act, 1948 is the principal legislation for regulating various aspects relating to safety, health and welfare of workers employed in factories. This Act is a Central enactment which aims at protecting workers employed in factories from industrial and occupational hazards. State governments and Union Territory Administrations frame rules under the Act and enforce provisions of the Act and rules through their factory inspectorates. The Directorate General, Factory Advice Service and Labour Institute (DGFASLI), Mumbai, an attached office of the Ministry of Labour, renders technical advice to the States/Union Territories in regard to administration and enforcement of the Factories Act. With five regional labour institutes at Mumbai, Kolkata, Kanpur, Chennai and Faridabad under its control, the DGFASLI also undertakes support research facilities and carries out promotional activities through education and training in matters concerning occupational safety and health. The Directorate General also reviews the position regarding implementation and enforcement of the Act.

Prescribing a 48-hour week for adult workers, the Factories Act forbids employment of children under 14 years of age in any factory. Minimum standards of lighting, ventilation, safety and welfare services which employers must provide in their factories have also been laid down. Factories employing over 30 women workers are required to provide a creche for their children.

Shelters, rest-rooms and lunch-rooms are required to be provided by factories employing over 150 workers. Factories with 250 workers or more have to appoint welfare officers. The Factories Act was amended in 1987 in order to impose a general duty on employers to ensure health and safety of workers and on designers, manufacturers, importers and suppliers to ensure that articles designed, manufactured, etc., are without risk to the health and safety of workers. A new chapter for regulating safety and health aspect in hazardous industries was incorporated in the Act.

SAFETY IN PORTS AND DOCKS

Provisions relating to safety, health and welfare of workers employed in docks are contained in the Dock Workers (Safety, Health and Welfare) Act, 1936 and rules and regulations framed thereunder. The Act came into force on 15 April 1987. Enforcement of this Act in all the major ports is the responsibility of the Ministry of Labour and this responsibility is discharged through the DGFASLI, Mumbai. The DGFASLI, being the Chief Inspector of Docks is also entrusted with the responsibility of enforcing in major ports the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 framed under the Environment (Protection) Act, 1986.

SAFETY IN MINES

Provisions for safety, health and welfare of workers employed in mines are contained in the Mines Act, 1952 and rules and regulations framed thereunder. These provisions are enforced by the Ministry of Labour through the Directorate General of Mines Safety. The Directorate General with its headquarters at Dhanbad and its zonal, regional and sub-regional offices spread all over the mining areas in the country has for its functions : inspection of mines, investigation of all fatal accidents and also certain serious accidents depending upon the gravity of the situation, grant of statutory permission, exemptions and relaxations in respect of various mining operations, approval of mines safety equipment, appliances and material, conduct examinations for grant of statutory competency certificate, safety promotional incentives including organisation of national awards and national safety conferences, etc.

NATIONAL SAFETY COUNCIL

The National Safety Council was set up in 1966 to promote safety consciousness among workers to prevent accidents, minimise dangers and mitigate human suffering, arrange programmes, lectures and conferences on safety, conduct educational campaigns to arouse consciousness among employers and workers and collect educational and information data, etc. National Safety Day is celebrated on 4 March every year to mark the foundation day of the National Safety Council.

AWARDS

PRIME MINISTER'S SHRAM AWARDS

Prime Minister's *Shram* Awards are given to workmen of the departmental

undertakings and the public-sector undertakings of the Central Government and State Governments in recognition of their outstanding contribution to production and for showing exemplary zeal and enthusiasm in the discharge of their duties. The awards, in order of precedence, are : *Shram Ratna*, *Shram Bhushan*, *Shram Vir* and *Shram Shri/Devi* and the recognition consists of a *Sanad* and a cash award. From 1997, the amount of cash award is Rs two lakh, Rs one lakh, Rs 60,000 and Rs 40,000.

NATIONAL SAFETY AWARDS

To give recognition to good safety performance on the part of the industrial undertakings and to stimulate and maintain the interest of both management and workers in accident prevention programmes, the Government instituted in 1965 the National Safety Awards. The scheme is applicable to factories and docks.

The National Safety Awards for mines were instituted in 1983. The scheme is designated to give recognition to outstanding safety performances of mines of national level which comes within the purview of the Mines Act, 1952. There are 32 awards, 16 winners and 16 runners-up, which are given to the management.

VISHWAKARMA AWARDS

Shram Vir Awards which are now known as *Vishwakarma Puraskar* were instituted in 1965. These are meant for workers of factories, mines, plantations and docks and are given to them in recognition of their meritorious performance which leads to high productivity or economy or higher efficiency.

EMIGRATION

The Emigration Act, 1983, which came into force with effect from 30 December 1983 regulates emigration of citizens of India for employment in other countries on contractual basis and seeks to safeguard the interest of such workers. Under the provisions of the Act, an employer can recruit any citizen of India for employment in any country or place outside India either through Recruiting Agent competent under the Act to make such recruitment or directly in accordance with a valid permit issued by the Central Government under the Act. The competent authorities to grant permit for deployment of Indians abroad are the Protector General of Emigrants (PGE) and the Heads of Indian Missions abroad. The Act also provides that anyone intending to recruit Indians for employment abroad can do so after obtaining a Registration Certificate from the PGE under the provisions of the Act. State Manpower Corporations are also in operation in Kerala, Himachal Pradesh, Punjab, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Haryana, Karnataka and Union Territory of Delhi. Agents are allowed to charge up to Rs 2,000 in the case of unskilled workers, Rs 3,000 in the case of semi-skilled workers, Rs 5,000 in the case of skilled workers and Rs 10,000 in the case of other than above categories from each emigrant as service charges for various services rendered in connection with their employment abroad.

The Act provides for legal and penal action against unscrupulous recruiting agents. Various offences including cheating of emigrants have been made cognizable under the Act. The Ministry of Labour has taken action against various agents for their defaults under various provisions of the Act. A system of public hearing has been introduced in the office of the Protector General of Emigrants and in the offices of the Protector of Emigrants located at Mumbai, Cochin, Chennai, Thiruvananthapuram, Kolkata, Hyderabad and Chandigarh.

Seventeen categories of persons are not required to obtain emigration clearance for seeking employment abroad. They are entitled to get the stamp of "Emigration Check Not Required" (ECNR) on their passports from the passport office by showing proof of their eligibility. Such individuals are : (i) persons going abroad in managerial capacity in hotels, restaurants, tea-houses or other places of public resort, etc., possessing specialized degrees in these fields; (ii) all gazetted government servants; (iii) all income-tax payers including agricultural income-tax (actual payment of income-tax for the last three years to be insisted upon, and not merely payment of advance tax); (iv) all professional-degree holders, such as doctors holding MBBS degree or degrees in Ayurveda or Homoeopathy; accredited journalists, lecturers, teachers, scientists, advocates, etc.; (v) spouses and dependent children of category of persons listed from (ii) to (v) above; (vi) all persons who have been staying abroad for more than three years (the period of three years could be either in one stretch or broken) and spouse, and children of such persons; (vii) seamen who are in possession of CDC and Sea Cadets, and Desk Cadets (1) who have passed final examination of three years B.Sc. Nautical Sciences Courses at T.S. Chanakya, Mumbai, and (2) who have undergone three months pre-Sea training at any of the Government approved Training Institutes such as T.S. Chanakya, T.S. Jawahar, MTI (SCI) and NIPM, Chennai after production of identity cards issued by the Shipping Master, Mumbai, Kolkata and Chennai; (viii) all holders of diplomatic/official passports; (ix) dependent children of parents whose passports are classified as ECNR (in the case of such children, ECNR classification to be restricted until they attain 24 years of age); (x) persons holding permanent immigration visas, such as in UK, USA and Australia; (xi) persons holding graduation or higher degrees; (xii) persons holding diplomas from recognised institutions like polytechnic; (xiii) nurses possessing qualifications recognised under the Indian Nursing Council Act, 1947; (xiv) all persons above the age of 60 years; (xv) all visitors to Pakistan and Bangladesh; (xvi) all persons going to any country in Europe or North America and (xvii) Government/Government recognised institutions.

The emigration procedure has further been simplified. A worker belonging to any of the following six categories, *viz.*, supervisors (all professions); skilled workers (all professions), semi-skilled workers (all professions), light/medium/heavy vehicle drivers; clerical workers of all categories including stenographers, store-keepers, time-keepers, typists, etc., and cooks excluding those in domestic employment and having valid employment visa endorsed on his passport, can either approach the POEs or the passport authorities through registered Recruiting Agents for ECNR endorsement on his/her passport.

Pilgrims going for *Haj* and *Umrah* in Saudi Arabia and those travelling with the declared purpose of performing *Ziarat* to Saudi Arabia, Syria, Iran, Iraq, Jordan, Egypt and Yemen have been exempted from the requirement of obtaining/suspension from 'Emigration Check Requirement' from Protector of Emigrants/Passport Offices. Similarly persons/workers going to Japan, Australia and New Zealand for jobs or otherwise have also been exempted from the requirement of obtaining Emigration clearance. A proposal for setting up a Central Manpower Export Promotion Council to undertake the task of promotion of the employment of Indian personnel/services abroad is under consideration of the Government. It is also proposed to set up a welfare fund to provide immediate relief to workers in emergency cases.

INDUSTRIAL RELATIONS

TRADE UNIONS ACT

The Trade Unions Act, 1926 basically provides for registration of trade unions. Any seven or more workers may, by subscribing their names to the rules of a trade union and otherwise complying with the provisions of the Act with respect to registration, apply for registration of the trade union under the Act.

CODE OF DISCIPLINE

The Code of Discipline was evolved at the Indian Labour Conference in 1958 requiring employers and workers to utilise the existing machinery for the settlement of disputes. It was accepted by all the Central organisations of employers/workers and several others. Under the Code of Discipline the implementing organisations assist in settling the disputes pertaining to Central or state affairs. The Central organisations of employers, workers and public-sector undertakings excluding the All India Trade Union Congress (AITUC) in this context have set up committees or cells for screening cases.

SCREENING PROCEDURE

A screening procedure has been evolved to check prolonged litigation by the public sector undertakings in filing appeals in industrial dispute cases on which an award or a judgment has been given by an Industrial Tribunal or a Court. Under this procedure, only after obtaining the concurrence of the concerned administrative Ministry and the Law Ministry on the need for filing an appeal by the public sector undertakings on an award or judgment of the Labour Court/Tribunal, High Court, etc., the case is referred to the Labour Ministry. In case the Labour Ministry and the concerned administrative Ministry do not agree, the matter is placed before the committee of economic secretaries.

LAY-OFF/RETRENCHMENT AND CLOSURES

The layoffs, retrenchments and closures are regulated under the provisions of the Industrial Disputes Act, 1947. The Government has taken steps to further regulate lay-offs, retrenchments and closures through the Industrial Disputes (Amendment) Acts of 1982 and 1984. Accordingly, under the Act,

any worker who has completed not less than one year of continuous service is entitled to a minimum amount of compensation for retrenchment/closure.

TRIPARTITE INDUSTRIAL COMMITTEE

A special Tripartite Committee was constituted by the Ministry of Labour on 12 November 1991 to consider the impact of New Industrial Policy on Labour and other related matters and make appropriate decisions. Based on the decision of this Committee seven Industrial Tripartite Committees, namely, on Sugar, Cotton Textiles, Road Transport, Electricity (Generation and Distribution), Jute, Chemical and Engineering have been constituted to look into the specific problems of sickness in industries. As and when a need arises, these Committees hold meetings and discuss problems emanating from various policy decisions of the Government such as globalisation and liberalisation.

NATIONAL COMMISSION ON LABOUR

With a view to suggesting rationalisation of existing laws relating to labour in organised sector and evolving an umbrella legislation for ensuring a minimum level of protection to the workers in the unorganised sectors, the Government on 15 October 1999 set up the Second National Commission on Labour (NCL). The Commission is required to give its final report in 24 months. The Commission will, *inter alia*, take into account the emerging economic environment involving rapid technological changes, globalisation of economy, liberalisation of trade and industry and emphasis on international competitiveness and also the need for bringing the existing laws in tune with the future labour market needs and demands.

The Commission has set up six study groups, *viz.* (i) Review of Laws; (ii) Rural/Informal Sector employment/umbrella legislation; (iii) Globalisation and its impact; (iv) Social Security; (v) Women and Child Labour; and (vi) Skill Development, Training and Workers' Education. The recommendations of the Commission especially in reforms in labour laws will form the basis for suitable amendments.

TRAINING

In an endeavour to help the youth build their career, the Directorate General of Employment and Training (DGE&T) has evolved various training programmes. These are formulated within the national framework as far as possible and also in collaboration with foreign countries.

CRAFTSMEN TRAINING

Industrial Training Institutes (ITIs) were set up all over the country to impart skills in 43 engineering and 24 non-engineering trades to young men and women in the age-group of 15-25. By 31 December 2000, 4,274 such institutes with a total capacity of about 6.28 lakh were providing training to craftsmen in the country. The duration of the course is one or two years for engineering trades and one year for all non-engineering trades. Educational qualifications

for admission vary from eighth standard to twelfth standard depending upon the trades. Besides these 67 trades, some State Governments and Union Territories have introduced training in certain trades to meet the requirements of local industries under the jurisdiction of state councils for vocational training.

CRAFTS INSTRUCTORS' TRAINING

Advanced Training Institutes (ATIs) at Howrah, Mumbai, Kanpur, Ludhiana and Hyderabad and the Central Training Institute for instructors at Chennai, were established in 1960s to train instructor trainees in the techniques of imparting industrial skills, who in turn train and make available skilled manpower for industry. These institutes with a seating capacity of 950 offer a series of one-year courses which provide comprehensive training, both in skill development and principles of teaching. Refresher courses are also conducted to update and upgrade the knowledge and skill of the instructors and keep them abreast of technological development in industry. Facilities for training of instructors in some selected special trades continue to be available in farm mechanic trades at ATI, Ludhiana and mill-right trades at ATI, Kanpur, Howrah and Ludhiana, where seats for scheduled caste and scheduled tribe candidates are reserved as per the Government of India norms.

ADVANCED VOCATIONAL TRAINING SCHEME

Advanced Vocational Training Scheme was launched in October 1977 for training of highly skilled workers and technicians in a variety of advanced and sophisticated skills not available for other vocational training programmes. Regular full-time courses of two to 12 weeks' duration are offered under the scheme in a variety of advanced skill areas. The scheme was introduced in six advanced training institutes located at Mumbai, Kolkata, Hyderabad, Kanpur, Ludhiana, Chennai and 16 selected industrial training institutes under 15 State governments. These institutes which were modernised to conduct various advanced courses under the scheme have an annual capacity to train about 10,000 industrial workers.

WOMEN'S VOCATIONAL TRAINING PROGRAMME

Vocational Training facilities for women in the country are organised through a network of 231 Women Industrial Training Institutes and 534 Women Wings and private ITIs with a seating capacity of about 46,750 under the control of State governments. In 1996 National Council for Vocational Training recommended that in general ITIs, up to 25 per cent of the sanctioned seats may be reserved for women candidates. These seats could be filled up based on general reservation policy of each of the State/UT, the total reservation being limited to 50 per cent. Under the Vocational Training Programme managed directly by the Government of India, Ministry of Labour, DGE&T, a National Vocational Training Institute at Noida as an apex centre and 10 Regional Vocational Training Institutes at Mumbai, Bangalore, Thiruvananthapuram, Kolkata, Hissar, Tura, Allahabad, Indore, Vadodara and

Jaipur have been set up with an intake capacity of 1,936 in basic, advanced and instructional skills. Besides this, short term courses are also organised as per availability of infrastructural facilities. Till 31 December 2000, more than 22,500 women candidates have been trained in these institutes since inception.

CENTRAL INSTRUCTIONAL MEDIA INSTITUTE

Central Instructional Media Institute (CIMI) has been set up in Chennai to make available instructional materials in the form of Media Packages (MPs) for the use of trainers and trainees in the ITIs and apprentices under the Apprenticeship Training Scheme. The Institute has developed various elements of instructional media packages (IMPs) comprising instructional materials, instructors' guide, wall-charts, overhead textbooks and transparencies on technology, land workshop calculations and science. CIMI was granted autonomy with effect from 1 April 1999.

FOREMEN TRAINING/SUPERVISORY TRAINING

Training programmes for supervisors/foremen for industry are organised at two Foremen Training Institutes located at Bangalore and Jamshedpur.

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

Central Staff Training and Research Institute, Kolkata, was set up in 1968 by the Government of India in collaboration with the Government of Republic of Germany. The Institute has three Wings —Training, Research and Development. The Training Wing provides training to the executives and administrators of vocational and industrial training in the country. The Research Wing conducts problem-oriented studies on different aspects of vocational training and the Development Wing is to develop and disseminate instructional material and aid/models for effective execution of industrial training.

APPRENTICESHIP TRAINING SCHEME

The Apprentices Act, 1961 makes it obligatory for employers in specified industries to engage apprentices for undergoing Apprenticeship Training, which varies from one year to four years. The training consists of basic training followed by on-the-job or shop floor training in accordance with standards prescribed by the Government in consultation with the Central Apprenticeship Council. So far 254 industries have been specified and 138 trades designated for trade apprentices.

The Apprenticeship Act, 1961 was amended in 1973 to bring under its purview the training of graduate and technician (vocational) apprentices, graduates and Diploma holders in Engineering and Technology. The Act was again amended in 1986 to include technician (vocational) apprentices for the benefit of students passing out of the 10 + 2 vocational education stream. The Act was further amended in 1977 to improve the performance of Apprenticeship Training Programme.

EMPLOYMENT

Employment in the organised sector, *ie.*, in all public-sector and non-agricultural establishments employing 10 or more persons in private sector, decreased from 281.66 lakh in March 1998 to 281.13 lakh in March 1999, a decrease of 0.19 per cent. The decrease in private sector employment during 1998-99 was 0.57 per cent. The primary objective of the Ninth Plan will be to generate greater productive employment in the growth process itself by concentrating on sectors, sub-sectors and technologies which are more labour-intensive in regions characterised by higher rates of unemployment and underemployment.

NATIONAL EMPLOYMENT SERVICE

The National Employment Service (NES) has a network of 953 employment exchanges/University Employment Information and Guidance Bureaux (UEIGBX) as on 30 June 1999. The exchanges assist all employment seekers including special groups like handicapped, ex-servicemen, scheduled castes and scheduled tribes, women, etc., through placement against jobs notified by employers. NES also carries out other functions such as vocational guidance and employment counselling, coordination and dissemination of employment market information and conducts studies in the field of employment and occupational research with a view to generating data for framing employment and manpower policies. Computerization of exchanges is continuing to improve their working.

Under the Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959, it is obligatory for all establishments in the public sector and such of those non-agricultural establishments in the private sector as employ 25 or more workers to notify their vacancies (with certain exemptions) to employment exchanges and supply periodic information as prescribed in the Act and in the rules under it. Development of these programmes at the national level particularly in the area of evolving common policies, laying down common standards and procedures, training of officers and evaluation of the programme is the responsibility of the Central Government. The day-to-day administration of the employment exchanges on the other hand, rests with the State Governments/UT Administrations. There are 40 special exchanges for the physically handicapped. Eighteen vocational rehabilitation centres provide a comprehensive package of rehabilitation services to the handicapped.

VOCATIONAL GUIDANCE

Vocational guidance and employment counselling services are provided to youth (applicants without any experience) and adults (with specific work experience). Such units functioned in 354 employment exchanges as on March 2000. In addition, Employment Information and Guidance Bureaux are functioning in 85 Universities. These units assist applicants and youth in planning their career. A special scheme operates in 23 selected districts on a pilot basis to motivate and guide job-seekers to take up self-employment.

SC/ST JOB SEEKERS

Coaching-cum-guidance centres for scheduled castes and scheduled tribes functioning at Delhi, Chennai, Kanpur, Jaipur, Hyderabad, Thiruvananthapuram, Surat, Jabalpur, Ranchi, Kolkata, Aizawl, Bangalore, Hissar, Bhubneswar, Imphal, Nagpur, Mandi, Guwahati, Kohima, Jowai, Jammu and Jalandhar provide registration guidance, pre-submission guidance, confidence-building training, pre-recruitment training and special coaching in typing and shorthand to job-seekers.

WORKING CONDITIONS AND WELFARE

The Ministry of Labour is administering five welfare funds for *beedi*, cine and certain categories of non-coal mine workers. The funds have been set up under the following Acts of Parliament for the welfare of these workers : (i) The Mica Mines Labour Welfare Fund Act, 1946; (ii) The Limestone and Dolomite Mines Labour Welfare Fund Act, 1972; (iii) The Iron Ore, Manganese Ore and Chrome Ore Mines Labour Welfare Fund Act, 1976; (iv) The Beedi Workers' Welfare Fund Acts, 1976; and (v) The Cine Workers' Welfare Fund Act, 1981. In order to give effect to the objectives laid down in the Acts, various welfare schemes in the field of health, education, housing, recreation, social security and water supply have been formulated and are under operation.

The funds are financed out of the proceeds of cess levied under respective Cess/Fund Acts on manufactured *beedis*, feature films, export of mica, consumption of limestone & dolomite and consumption and export of iron ore, manganese ore & chrome ore.

SOCIAL SECURITY

WORKMEN'S COMPENSATION ACT, 1923

A beginning was made in Social Security with the passing of the Workmen's Compensation Act in 1923. The Act provides for payment of compensation to workmen and their dependents in case of injury and accident (including certain occupational diseases) arising out of and in the course of employment and resulting in disablement or death. The Act applies to railway servants and persons employed in any such capacity as is specified in Schedule II of the Act. Schedule II includes persons employed in factories, mines, plantations, mechanically propelled vehicles, construction works and certain other hazardous occupations. Minimum rates of compensation for permanent total disablement and death have been fixed at Rs 90,000 and Rs 80,000 respectively. Maximum amount for death and permanent total disablement can go up to Rs 4.56 lakh and Rs 5.48 lakh respectively depending on age and wages of workmen.

MATERNITY BENEFITS

The Maternity Benefit Act, 1961 regulates employment of women in certain establishments for a certain period before and after childbirth and provides for maternity and other benefits. The Act applies to mines, factories, circus,

industry, plantation, shops and establishments employing ten or more persons, except employees covered under the Employees State Insurance Act, 1948. It can be extended to the establishments by the State Governments. There is no wage limit for coverage under the Act.

GRATUITY SCHEME

The Payment of Gratuity Act, 1972 is applicable to factories, mines, oil fields, plantations, ports, railways, motor transport undertakings, companies, shops and other establishments. The Act provides for payment of gratuity at the rate of 15 days' wages for each completed year of service subject to a maximum of Rs 3,50,000. In the case of seasonal establishments, gratuity is payable at the rate of seven days' wages for each season. The Act does not affect the right of an employee to receive better terms of gratuity under any award or agreement or contract with the employer.

EMPLOYEES' STATE INSURANCE SCHEME

The Employees' State Insurance Act is applicable in the first instance, to non-seasonal factories using power and employing ten or more persons and non-power using factories employing 20 or more persons. Under the enabling provisions contained in the Act, the Act is being extended by the State Governments to new classes of establishments, namely, shops, hotels, restaurants, cinemas, including preview theatres, road motor transport undertakings and newspaper establishments employing 20 or more persons. It covers employees drawing wages not exceeding Rs 6,500 with effect from 1 January 1997. The Act provides medical care in kind and cash benefits in the contingency of sickness, maternity and employment injury and pension for dependents in the event of the death of a worker because of employment injury. Full medical care including hospitalisation is also being progressively made available to members of the family of the insured persons. As on 31 December 2000 there were 139 ESI hospitals and 43 annexes with 26,905 beds and 1,443 dispensaries under the scheme. The total number of employees covered was about 86.01 lakh.

EMPLOYEES' PROVIDENT FUND AND M.P. ACT, 1952

Retirement benefits in the form of provident fund, family pension and deposit-linked insurance are available to employees under the Employees' Provident Fund and Miscellaneous Provisions Act, 1952. As on 21 April 2001 the Act covered 180 industries/classes of establishments. Coverage under the Act is presently restricted to establishments employing 20 or more persons. It was restricted to those drawing wages up to Rs 5,000 per month. The Government has raised the wage ceiling limit to Rs 6,500 with effect from 1 June 2001. Minimum rate of contribution under the Act is 10 per cent. However, rate of contribution in respect of 175 industries/establishment employing 20 or more persons has been enhanced to 12 per cent. Under the Act, employers are required to make a matching contribution.

EMPLOYEES' DEPOSIT-LINKED INSURANCE SCHEME

Another important social security measure, Employees' Deposit Insurance Scheme, 1976 was introduced for members of the Employees' Provident Fund and exempted provident funds with effect from 1 August 1976. On the death of a member, the person entitled to provident fund accumulation would be paid an additional amount equal to average balance in provident fund account of the deceased during the preceding twelve months. The maximum amount of benefit payable under this scheme is Rs 60,000 and the employees do not have to make any contribution to it.

EMPLOYEES' PENSION SCHEME, 1995

This scheme was introduced for the industrial workers with effect from 16 November 1995. Under the scheme, pension at the rate of 50 per cent pay is payable to the employees on retirement/super-annuation on completion of 33 years' contributory service. A minimum 10 years' service is required for entitlement to pension. Depending upon the salary and service of the employee at the time of death the scheme also provides for grant of family pension ranging from Rs 450 per month to Rs 2,500 per month. In addition, children-pension at the rate of 25 per cent of widow pension subject to a minimum of Rs 150 per child is also payable up to two children. The scheme is financed by diverting the employer's share of provident fund representing 8.33 per cent of the monthly wage to the pension fund. In addition, the Central Government also contributes to the scheme at the rate of 1.16 per cent of the wage. The upper limit has been raised from Rs 5,000 to Rs 6,500 with effect from 1 June 2001.

25 Housing

NATIONAL HOUSING AND HABITAT POLICY

HOUSING is a state subject, but, the Union Government is responsible for the formulation of policy with regard to programme and approaches for effective implementation of social housing schemes, particularly those pertaining to weaker sections of the society. A new Housing and Habitat Policy 1998 had been formulated to address the issues of sustainable development, infrastructure and for strong public-private partnership for shelter delivery. The objectives of the policy are to create surpluses in housing stock and facilitate construction of two million additional dwelling units each year in pursuance of National Agenda for Governance. It also seeks to ensure that housing along with supporting services is treated as a priority sector at par with infrastructure. The central theme of the policy is strong public-private partnerships for tackling housing and infrastructure problems. The Government would provide fiscal concessions, carry out legal and regulatory reforms and create an enabling environment.

The problem of housing shortage compounded with the population explosion has also been addressed by this policy. This document clearly identifies the respective roles of the Central Government, the State Government, local authorities, financial institutions, research standardization and technical institutions. However, housing being a state subject, State governments have to play the primary role in formulating specific action plans and programmes suited to local needs and conditions in consultation with local bodies and citizen groups. The National Agenda for Governance has identified Housing for All as a priority area, with particular emphasis on the needs of the vulnerable groups. As per this programme, it is proposed to facilitate construction of 20 lakh additional units every year, with emphasis on Economically Weaker Sections (EWS) and Low Income Group (LIG) sections of the population as also the needs of SC/ST and other vulnerable groups. Out of 20 lakh additional houses, seven lakh houses will be constructed in urban areas and remaining 13 lakh in the rural areas. This would require an additional investment of around Rs 4,000 crore per year.

HOUSING FINANCE

The following initiatives have been taken as part of implementation of National Housing and Habitat Policy : (a) An Action Plan has been drawn up to achieve the target of Shelter for All enunciated in the National Agenda for Governance. Construction of seven lakh additional dwelling units in urban areas will be facilitated by the Government by providing fiscal and technological support. It will require all round-involvement of private sector/cooperatives and NGOs/CBOs (Community Based Organisations); (b) The National Housing Bank set up in 1988 as a subsidiary of Reserve Bank of India, is functioning under administrative control of the Banking Division of Department of

Economic Affairs. It is supervising and controlling various Housing Finance Institutions (HFIs). So far it has recognised 29 HFIs; (c) Allocation by Life Insurance Corporation/General Insurance Corporation for direct and indirect finance for housing has been increased; (d) During 2000-2001, HUDCO sanctioned loans of Rs 7,912.73 crore for Housing and Urban infrastructure schemes. The loan released by HUDCO during the same period was Rs 4,829.32 crore. The 360 schemes, sanctioned during 2000-2001 with HUDCO loan assistance of Rs 7,912.73 crore would enable construction and upgradation of 30.98 lakh residential units, development of 8,871 residential plots. More than 96 per cent of the total residential units sanctioned during the year were meant for EWS/LIG (29.93 lakh units). In addition under 'HUDCO *Niwas*' the individual housing loan scheme, it has sanctioned Rs 1,071.27 crore for 80,740 dwelling units in the country and released an amount of Rs 662.14 crore during the year; and (e) As an Action Plan item, Night Shelter Scheme for Footpath Dwellers is being implemented as a Centrally-sponsored scheme in the metropolitan and other major urban centres. Since April 1990, 106 schemes benefitting over five lakh footpath-dwellers have been sanctioned by HUDCO in various parts of the country.

FISCAL CONCESSIONS FOR HOUSING SECTOR

The Government has provided various fiscal concessions to the housing sector during 2001-2002. These include: (i) Concessions under Section "80-1A and Section 10(23) G," Concessions given for rental housing by way of exemption on interest paid on housing loans; (ii) Exemption given under Section 88 of the Income Tax Act has been increased from Rs 10,000 to Rs 20,000; (iii) Capital Gains Tax on sale of immovable property is exempted for purchase of more than one house; (iv) Interest Tax imposed on loans given by Housing Finance Institutions has been dispensed with; (v) Tax Free Status to limited Municipal Bonds; and (vi) Tax holidays for approved housing projects up to 1,500 sq ft (1,000 sq ft in Delhi and Mumbai).

Concessions given for cost effective and environment friendly building material have been retained. Further concessions have been extended for pre-fabricated building material.

BUILDING MATERIALS AND TECHNOLOGY INPUTS IN HOUSING SECTOR

Building materials account for 65 to 75 per cent of the total cost of construction. The demand for building materials has been continuously rising with the increasing need for housing both in rural and urban areas. Inadequate technology extension facilities, lack of coordination and promotion programme at the Central and State Government levels to support production ventures are some of the issues receiving attention of the Government. In the rural areas the problem is more severe due to decreasing access to traditional materials such as timber, bamboo, thatch which mostly form part of bio-mass. Commercial exploitation by various industries has aggravated the situation.

In this regard, the following initiatives have been taken: (a) As part of the Ninth Plan exercise, the demand and likely shortage of some of the major building materials had been estimated along with the potential for production of alternative building materials. Fresh estimates of the materials required during Tenth Plan are being made; (b) The Building Materials and Technology Promotion Council (BMTPC) has been functioning as a registered Society under the aegis of the Ministry of Urban Development and Poverty Alleviation to provide for an appropriate platform for technology identification, validation, transfer, application in the shelter sector and promoting large scale commercial production of innovative building materials. The Council has taken a lot of initiatives in utilization of fly-ash and other wastes, introduction of new specifications by CPWD and Bureau of Indian Standards (BIS) and to increase the entrepreneurs interface with the financial institutions and research agencies. A number of flyash-based building materials production units in various parts of the country have been set up; (c) Some of the technologies and new materials and components already tested and manufactured on a pilot scale have been identified for large-scale extension; (d) A network of Building Centres has been set up as a Centrally-sponsored scheme through HUDCO to train artisans and others for transfer of appropriate technology to rural and urban areas. As on 31 March 2001, administrative approval has been given for 583 Building Centres out of which 433 have become functional; and (e) Non-governmental organisations are increasingly being supported to supplement governmental efforts.

NRI INVESTMENT IN HOUSING

In the ongoing process of economic reforms and liberalization of trades and industrial policy of the Government, the housing and real estate sectors have emerged as a key area with immense investment potential. In order to pass on the benefits of the liberalization process to Non-Resident Indians (NRIs)/People of Indian Origin (PIO)/Overseas Corporate Bodies (OCBs) and to promote inflow of foreign exchange and augment resources for the housing sector, the Government announced a scheme for NRI investment in housing and real estate development. The scheme covers investment by non-residents of Indian nationality/origin and OCBs predominantly owned by NRIs/PIO in the following areas: (i) development of serviced plots and construction of built-up residential premises; (ii) real estate covering construction of residential and commercial premises including business centres and offices; (iii) development of townships; (iv) city and region-level urban infrastructure facilities including roads and bridges; (v) manufacturing of building materials; and (vi) Financing of housing development. NRI investment of Rs 564 crore had been approved in the housing and real estate development sector as on 31 December 2000.

NATIONAL BUILDING ORGANISATION

National Building Organisation (NBO) was established in 1954 as an attached office of the then Ministry of Works and Housing primarily to take up research in low-cost building designs, improvement of the building and housing

Housing

conditions along with the socio-economic aspects. NBO also functions as the regional centre for housing for Economic and Social Council for Asia-Pacific (ESCAP). The NBO was restructured in 1992 to take up mainly the socio-economic management information system and creation of data bank. The functions related to building materials and designs have been taken out of the purview of the NBO and given to BMTPC, an autonomous body within the Ministry.

HOUSING FOR CENTRAL GOVERNMENT EMPLOYEES

The Central Government Employees' Welfare Housing Organisation (CGEWHO) is a registered society under the aegis of Ministry of Urban Development and Poverty Alleviation. Fifteen housing schemes have been taken up by CGEWHO, of which 10 are complete with 6,008 dwelling units. Five schemes are under construction which on completion will provide 2,373 units. The projects were taken up at Gurgaon, NOIDA, Hyderabad, Kochi, Pune, etc.

URBAN LAND (CEILING AND REGULATION) REPEAL ACT, 1999

The Urban Land (Ceiling and Regulation) Repeal Act, 1999 was notified in the Gazette on 22 March 1999 in replacement of an Ordinance on the same subject. The Repeal Act has already come into force in Haryana, Punjab, Uttar Pradesh, Gujarat, Karnataka, Madhya Pradesh and all the Union Territories. The Governments of Andhra Pradesh, Assam, Bihar, Maharashtra, Orissa, Rajasthan and West Bengal have not adopted the Repeal Act. Guidelines have also been issued to all the State Governments and UTs. The Repeal Act will facilitate construction of dwelling units both in the public and private sector.

ACCELERATED URBAN WATER SUPPLY PROGRAMME

The Centrally-sponsored Accelerated Urban Water Supply Programme (AUWSP) was launched during 1993-94: (i) to provide safe and adequate water supply facilities to the towns having population less than 20,000 (as per 1991 census) within a fixed time frame; (ii) to improve the environment and the quality of life; and (iii) for better socio-economic condition and more productivity to sustain the economy of the country.

As per 1991 census, there are 2,151 small towns with a population of 2.34 crore eligible for assistance under the programme. Rs 64 crore were released during 2000-01. Allocation for 2001-02 is Rs 95 crore.

LOW COST SANITATION FOR LIBERATION OF SCAVENGERS

The scheme seeks to completely eliminate the practice of manual scavenging during the Ninth Plan by conversion of dry latrines into low-cost water seal pour flush latrines and construction of new sanitary toilets. The scheme is being operated through the HUDCO by providing subsidy from the Central Government and loan from HUDCO to the States and Union Territories.

Up till 31 May 2001, 835 schemes covering 1,248 towns were sanctioned for conversion/construction of 35,23,078 dry latrines/pour flush toilets and

liberation of 1,12,593 manual scavengers. An amount of Rs 498.11 crore has been sanctioned as subsidy and Rs 584.18 crore as loan from HUDCO for these schemes. Out of this, Rs 245.56 crore as subsidy and Rs 277.70 crore as loan have been released by HUDCO to different States. So far, 14,11,087 low cost units have been completed and 3,31,028 are in progress.

GANGA BARRAGE PROJECT

The Government of India approved the Ganga Barrage Project at Kanpur on 10 April 1999 at a cost of Rs 263.40 crore. 50 per cent of this amount was to be given as loan to the Government of Uttar Pradesh till 31 March 2001. Rs 70.49 crore were released as loan to the State Government. Of the current year budget of Rs 60.99 crore, Rs 30 crore were released on 30 May 2001 as loan to the State government.

HINDUSTAN PREFAB LIMITED

Hindustan Prefab Limited (HPL), a Government of India Company functioning under the administrative control of the Ministry of Urban Development since 1955, is both a production unit and a contracting company for execution of civil works. The company is managed by a Board of Directors. The company's authorised and paid-up capital stands at Rs 10 crore and Rs 6.97 crore respectively.

INTEGRATED DEVELOPMENT OF SMALL AND MEDIUM TOWNS SCHEME

The Centrally-sponsored scheme of Integrated Development of Small and Medium Towns (IDSMT) came into operation in 1979-80 covering towns up to five lakh population. As per the revised guidelines issued in August 1995, the share of Central and State governments is released as grant. IDSMT scheme is applicable to those towns where election to the local bodies have been held and elected representatives are in position. The schemes are approved, sanctioned and monitored by a State level committee. Institutional finance ranging from 20-40 per cent of the project cost can be availed by the towns covered under the scheme from HUDCO/other financial institutions. The Central assistance is available in the ratio of 60:40 (Central and State). Under the Central Urban Infrastructure Support Scheme (CUISS), the State governments are also provided Central assistance, ranging from Rs three lakh to Rs six lakh depending upon the size of the town, for preparation of project reports for towns to be covered under IDSMT scheme.

Central assistance amounting to Rs 444.93 crore has been released for 1,058 towns up to 31 March 2001 since the inception of the scheme. Under the CUISS, a sum of Rs 10.27 crore has been released for 552 towns up to 31 March 2001. The Plan allocation for the scheme during 2001-2002 is Rs 70 crore.

MEGA CITY SCHEME

The Centrally-sponsored scheme of Infrastructure Development in Mega Cities in operation from 1993-94 applies to the five Mega Cities of Mumbai, Chennai,

Kolkata, Hyderabad and Bangalore. The sharing of cost between Central and State governments is in the ratio of 25:25 and the balance 50 per cent is to be mobilised as institutional finance. The projects included under the Scheme are of three categories : (a) Remunerative projects; (b) User-charge based projects; and (c) Basic services projects. The primary objective is to enable the mega cities build a Revolving Fund by the end of the Ninth Plan for sustained investment in urban infrastructure through adoption of direct and indirect cost recovery measures. Till 31 March 2001, the Central share of Rs 598.95 crore has been released to the nodal agencies.

URBAN MAPPING SCHEME

The Urban Mapping Scheme was taken up as a pilot project during the Eighth Five Year Plan for covering 50 towns from different states. In the first phase, 25 towns from six states were selected for coverage. The Executive Agency for the project, the National Remote Sensing Agency (NRSA) has completed aerial photography for all the towns and they have furnished photographs and aerial maps for all the towns except three towns. Town and Country Planning Organisation in collaboration with the concerned State Town Planning Departments is undertaking interpretation of aerial photographs and collection of other secondary data/information to generate thematic maps and graphic data base for the development of GIS and processing of information for use of Town Planning Departments, Local Bodies, Development Authorities, PWD, Tax Authorities and other Sectoral Development Agencies, as multi-purpose maps.

As envisaged in the Plan document, the second phase of the Urban Mapping Scheme involving 25 more towns was approved to be covered in the Ninth Plan period. For the second phase, 13 towns have been proposed by NRSA and various survey works are being completed. The work of remaining 15 towns in second phase has also been entrusted to NRSA.

CENTRAL PUBLIC WORKS DEPARTMENT

The Central Public Works Department (CPWD), is the principal agency of the Government of India for construction and maintenance of all Central Government buildings and projects excepting those belonging to railways, defence, communication, atomic energy, airports (national and international) and All India Radio. The existence of the CPWD could be traced back to the year 1863 when the Ajmer Provincial Division was created. However, the CPWD was formally created in its present form in 1930 with its headquarters at New Delhi. The Department is headed by Director General (Works) who functions as Consulting Engineer to the Government of India. The Department has six regional centres known as New Delhi Region, Delhi Region, Northern Region (all with headquarters at Delhi), Eastern Region, Southern Region and Western Region (with headquarters at Kolkata, Chennai and Mumbai respectively).

The CPWD handles a wide a range of projects like housing and office complexes. It is also executing border fencing, floodlighting and road projects

in difficult terrain and under hostile conditions along the Indo-Pak and Indo-Bangladesh borders. CPWD has its field units all over India to take up construction and maintenance works even in the remotest parts of the country. It also undertakes works of public sector undertakings and autonomous bodies as deposit works. CPWD has also executed many overseas works such as construction of embassies and hospital buildings in various countries and roads and bridges in Nepal.

The CPWD has to its credit construction of prestigious buildings like Rashtrapati Bhawan, North Block, South Block, Parliament House, Vigyan Bhawan and many multi-storeyed structures, stadia, etc. The prestigious Parliament Library Building costing approximately Rs 191.10 crore is nearing completion near the Parliament House.

The department is moving forward in the field of construction by developing innovative new techniques and adopting state-of-the-art technologies. A Technology Application and Development Cell (TAD Cell) has been established to identify and select environment friendly construction materials and technologies in close liaison and coordination with research organisations. The CPWD is playing a major role in sustainable development of human settlement. It has also developed expertise in rehabilitation of structures.

The CPWD has well-documented specifications and standards and schedules of rates which are updated from time to time, to keep pace with latest technologies and market trends with a definite quality assurance plan. These specifications and schedules of rates are being followed by various construction organisations in public as well as in private sectors.

CONSTRUCTION AGENCIES

NATIONAL BUILDINGS CONSTRUCTION CORPORATION LIMITED

The National Buildings Construction Corporation Limited (NBCC) was incorporated as a public sector undertaking in November 1960. The paid-up equity share capital of NBCC as on 31 March 2001 is Rs 111.65 crore against the authorised capital of Rs 120 crore. The Company's activities are spread all around the country and abroad. During 2000-01 NBCC earned a profit of Rs 7 crore and has orders in hand worth Rs 615 crore as on 31 March 2001.

NBCC has been working in areas such as : Environmental Engineering Plants using 'UASB' Technology, Tall Stacks and Cooling Towers using Slip-Form and Jump Form Technologies, development of Real Estate Projects, Project Management and Maintenance Contracts. NBCC during 2000-01 has been awarded two major contracts one of Rs 114 crore for providing of Project Management and Consultancy Services for construction of 1,000 houses and development works of various sectors in NOIDA, and another contract of Rs 74 crore for External Plant Works, ducting and laying of Optical Fibre Cables at various locations in Gujarat, Maharashtra and Haryana for Bharat Sanchar Nigam Limited (BSNL).

NBCC is also actively involved in laying of underground utility services through Trenchless Construction "No-Dig" Technology. A large number of projects are under execution for MTNL, DBV, DDA, NDMC, Delhi Jal Board, etc., using this Technology. NBCC has also formed a Joint Venture with a Company of Botswana for development of infrastructure projects there.

NATIONAL CAPITAL REGION PLANNING BOARD

The National Capital Region Planning Board (NCRPB) was constituted under the NCR Planning Board Act, 1985 enacted by the Parliament with the concurrence of the legislatures of the States of Haryana, Rajasthan and Uttar Pradesh. It has the mandate for preparing a plan for the development of the National Capital Region. The NCR with an area of 30,242 sq km covers the whole of NCT Delhi and parts of Haryana, Rajasthan and Uttar Pradesh. The Board had prepared Regional Plan-2001 for NCR and is coordinating the enforcement and implementation of the Regional Plan, Functional Plans and Sub-Regional Plans. Uttar Pradesh and Rajasthan have prepared the sub-regional plans for their sub-regions which have been approved by the Board. The Board has also prepared Functional Plan for transport, power, telecom and industry sectors. The present Regional Plan has been reviewed. The Board has initiated the process of preparing a Regional Plan for the perspective year 2021. During 1996-97, the Board had obtained credit of Rs 60 crore from HUDCO. In 1997-98, 1998-99 and 2000-2001, the Board raised an amount of Rs 226.40 crore, Rs 285 crore and Rs 152.40 crore, respectively from the capital market.

For the development of the region, the Board has approved 148 projects with an estimated cost of Rs 4,277.40 crore. Of these 68 projects have been completed. The Board had sanctioned a loan amount of Rs 1,592.93 crore out of which Rs 1,126.28 crore were released up to 30 June 2001 to Haryana, Rajasthan and Uttar Pradesh and four Counter Magnet Areas including Gwalior, Patiala, Kota and Bareilly. The State governments incurred an expenditure of Rs 1,449.10 crore up to March 2001.

NATIONAL SLUM DEVELOPMENT PROGRAMME

The National Slum Development Programme (NSDP) was launched in August 1996 at Kanpur. Under the programme, additional Central assistance is being released to States/UTs for the development of urban slums. The objective is to provide adequate and satisfactory water supply, sanitation, primary education facilities, health care, pre-primary, adult literacy and non-formal education facilities, etc. The focus is on community infrastructure, provision of shelter, empowerment of urban poor women, training, skill upgradation and involvement of NGOs, CBOs and other bodies. The funds are allocated to States/UTs annually. Out of Rs 1,528 crore released by the Central Government, Rs 819.47 crore were utilised up to June 2001 benefitting nearly 2.82 crore people since inception of the scheme.

SWARNA JYANTI SHAHARI ROZGAR YOJANA

All the three Urban Poverty Alleviation Schemes, namely, Urban Basic Services for the Poor (UBSP), *Nehru Rozgar Yojana* (NRY) and Prime Minister's Integrated Urban Poverty Eradication Programme (PMI-UPEP) stand subsumed in a new scheme *Swarna Jayanti Shahari Rozgar Yojana* (SJSRY) with effect from 1 December 1997. The SJSRY seeks to provide gainful employment to the urban unemployed or under-employed through encouraging the setting up of self-employment ventures or provision of wage employment. This programme relies on creation of suitable community structures. The Yojana is funded on a 75:25 basis between Centre and the States. The scheme consists of two special schemes: (a) The Urban Self Employment Programme (USEP) and (b) The Urban Wage Employment Programme (UWEP). During 2000-01 Rs 39.66 crore were released under USEP, Rs 31.44 crore under UWEP and Rs 14.03 crore under Community Structure Component to all States/UTs under SJSRY.

URBAN SELF-EMPLOYMENT PROGRAMME

This programme has three components: (i) Assistance to individual urban poor beneficiaries for setting up gainful self-employment ventures; (ii) Assistance to groups of urban poor women for setting up gainful self-employment ventures. This sub-scheme has been titled as "The Scheme for Development of Women and Children in the Urban Areas (DWCUA)"; and (iii) Training of beneficiaries, potential beneficiaries and other persons associated with the urban employment programme for upgradation and acquisition of vocational and entrepreneurial skills. The programme is applicable to all urban towns in India and implemented on a whole-town basis with special emphasis on urban poor clusters. The programme targets the urban poor, defined as those living below the urban poverty-line. The percentage of women beneficiaries under this programme shall not be less than 30 per cent. The SCs and STs must be benefitted in proportion to their strength in local population. A provision of three per cent shall be reserved for the disabled under this programme. There is no minimum educational qualification for beneficiaries under this programme. However, this scheme is not applied to beneficiaries educated beyond the IX standard. Women beneficiaries belonging to women-headed household, *viz.*, widows, divorcees, single women, or households where women are the sole earners are ranked higher in priority. The number of persons trained and beneficiaries assisted up to 31 March 2001 was 2,42,434 and 2,75,128 respectively.

DEVELOPMENT OF WOMEN AND CHILDREN IN URBAN AREAS

Development of Women and Children in Urban Areas (DWCUA) programme aims at helping groups of urban poor women in taking up self-employment ventures. The group may consist of at least 10 women. The ceiling of subsidy under the scheme is Rs 1.25 lakh or 50 per cent of the cost of the project whichever is less. Where the group sets itself up as Thrift and Credit Society, in addition to its self-employment venture, it will be eligible for an additional grant of Rs 25,000 as revolving fund at the rate of Rs 1,000 maximum per

member. The fund is meant for purposes like purchase of raw materials and marketing, infrastructure support, one time expense on child care activity, expenses up to Rs 500 on travel cost of group members to bank, payment of insurance premium for self/spouse/child by maintaining savings for different periods by a member and any other expense allowed by the State in group's interest. The revolving fund can be availed by a group only after one year of its formation. Up to 31 March 2001, 11,527 DWCUA groups were formed benefitting 17,101 women.

URBAN WAGE EMPLOYMENT PROGRAMME

This programme seeks to provide wage employment to beneficiaries living below the poverty-line within the jurisdiction of urban local bodies by utilising their labour for construction of socially and economically useful public assets. There are no restrictions on educational qualification. The programme applies to urban local bodies, having population less than five lakh as per the 1991 Census. The material labour ratio for works under this programme is to be maintained at 60:40. The prevailing minimum wage rate, as notified from time to time for each area, has to be paid to beneficiaries under this programme. The programme is dovetailed with the state sector Environmental Improvement of Urban Slums (EIUS) scheme as well as the National Slum Development Programme (NSDP). This programme is not designed to either replace or substitute the EIUS, the NSDP, or any other state sector schemes. The number of mandays of work generated up to 31 March 2001 was 331.06 lakh.

NORTH-EAST INITIATIVES

A conference of Urban Development Ministers of North-East and Sikkim was held at Gangtok on 18-20 June 2001 in which the problems of infrastructural development were discussed. As per its recommendations a Task Force was constituted to deal with the cases relating to development of North-Eastern States. Rs 120.50 crore have been provided in the budget of 2001-2002 for taking up development schemes in the urban sector in the North-Eastern region including Sikkim. An amount of Rs 118.05 crore, provided in the previous year was transferred to the Non-Lapsable Central Pool of Resources. Having regard to these budget provisions, the North-Eastern States were addressed to submit project proposals for an approximate amount of Rs 30 crore per State.

26 Justice and Law

THE Constitution of the Republic of India guarantees, besides other rights, protection of life and personal liberty and provides adequate safeguards against the arbitrary deprivation thereof by the State.

Adoption of a Republican Constitution by India in 1950 did not disturb continuity of existing laws and unified structure of courts. Unity and uniformity of the judicial structure were preserved by placing such areas of law as criminal law and procedure, civil procedure, will, succession, contract including special form of contract, but not including contract relating to agricultural land, registration of deeds and documents, evidence, etc., in Concurrent List.

SOURCES OF LAW

The main sources of law in India are the Constitution, statutes (legislation), customary law and case law. Statutes are enacted by Parliament, State legislatures and Union Territory legislatures. Besides, there is a vast body of laws known as subordinate legislation in the form of rules, regulations as well as bye-laws made by Central/State governments and local authorities like municipal corporations, municipalities, *gram panchayats* and other local bodies. This subordinate legislation is made under the authority conferred or delegated either by Parliament or State or Union Territory legislatures concerned. Judicial decisions of superior courts like Supreme Court and High Courts are important sources of law. Decisions of Supreme Court are binding on all courts within the territory of India. Local customs and conventions which are not against statute, morality, etc., are also recognized and taken into account by courts while administering justice in certain spheres.

ENACTMENT OF LAWS

Parliament is competent to make laws on matters enumerated in the Union List. State legislatures are competent to make laws on matters enumerated in the State List. Parliament alone has power to make laws on matters not included in the State or Concurrent List. On matters enumerated in Concurrent List, laws can be made by both Parliament and legislatures. But in event of repugnancy, law made by Parliament shall prevail and law made by State legislature, to the extent of repugnancy, be void unless the latter law having been reserved for consideration of President, has received his assent, and in that event it shall prevail in that state.

JUDICIARY

At the apex of the entire judicial system exists Supreme Court of India with a High Court of each state or group of states, and under High Courts, there is a hierarchy of subordinate courts. *Panchayat* courts also function in some

states under various names like *Nyaya Panchayat*, *Panchayat Adalat*, *Gram Kachheri*, etc., to decide civil and criminal disputes of petty and local nature. Different state laws provide for jurisdiction of these courts.

Each state is divided into judicial districts presided over by a district and sessions judge, who is the principal civil court of original jurisdiction and can try all offences including those punishable with death. He is the highest judicial authority in a district. Below him, there are courts of civil jurisdiction, known in different states as *munsifs*, sub-judges, civil judges and the like. Similarly, criminal judiciary comprises chief judicial magistrate and judicial magistrates of first and second class.

SUPREME COURT

The Supreme Court of India consists of 26 judges (including the Chief Justice of India). The judges hold office until they attain the age of 65 years. The Supreme Court of India has original jurisdiction in any dispute arising : (a) between the Government of India and one or more states; or (b) between the Government of India and any state or states on the one side and one or more states on the other; or (c) between two or more states.

An appeal shall lie to the Supreme Court from any judgement, decree or final order of a High Court in the territory of India, whether in a civil, criminal or other proceeding.

As on 1 June 2001 the Members of the Supreme Court of India are : Chief Justice A.S. Anand, Judges : S.P. Bharucha, B.N. Kirpal, G.B. Pattanaik, K.T. Thomas, V.N. Khare, S. Rajendra Babu, A.P. Misra, S.S. Mohammed Quadri, B.M. Shah, D.P. Mohapatra, U.C. Banerjee, R.C. Lahoti, N. Santosh Hegde, R.P. Sethi, S.N. Phukan, Doraiswamy Raju, Y.K. Sabharwal, Smt Ruma Pal, S.N. Variava, S.V. Patil, K.G. Balakrishnan, Brijesh Kumar and Bishwanath Agrawal.

HIGH COURTS

High Court stands at the head of the state's judicial administration. There are 21 High Courts in the country, three having jurisdiction over more than one state. Among the Union Territories, Delhi alone has a High Court of its own. Other six Union Territories come under jurisdiction of different state High Court of its own. Other six Union Territories come under jurisdiction of different state High Courts. Each High Court comprises a Chief Justice and such other Judges as the President may, from time to time, appoint. The Chief Justice of High Court is appointed by the President in consultation with the Chief Justice of India and the Governor of the state. The procedure for appointing the High Court judges is the same except that the Chief Justice of the High Court concerned is also consulted. They hold office up to 62 years of age. To be eligible for appointment as a judge, one must be a citizen of India and should have held a judicial office in India for 10 years or must have practised as an advocate of a High Court or two or more such courts in succession for a similar period.

Each High Court has power to issue any person or authority and government within its jurisdiction, direction, orders or writs including writs which are in the nature of *habeas corpus*, *mandamus*, prohibition, *quo warranto* and *certiorari*, for enforcement of Fundamental Rights and for any other purpose. This power may also be exercised by any High Court exercising jurisdiction in relation to territories within which the cause of action, wholly or in part, arises for exercise of such power, even if the seat of such Government or authority or residence of such person is not within those territories. The total sanctioned strength of judges and additional judges in different High Courts is 647 against which 465 were in position as on 1 May 2001. Table 26.1 gives the seat and territorial jurisdiction of the High Courts.

TABLE 26.1 : JURISDICTION AND SEAT OF HIGH COURTS

Name	Year	Territorial Jurisdiction	Seat
Allahabad	1866	Uttar Pradesh	Allahabad (Bench at Lucknow)
Andhra Pradesh	1954	Andhra Pradesh	Hyderabad
Bombay	1862	Maharashtra, Goa, Dadra and Nagar Haveli and Daman and Diu	Mumbai (Benches at Nagpur, Panaji and Aurangabad)
Calcutta	1862	West Bengal	Kolkata (Circuit Bench at Port Blair)
Chhattisgarh	2000	Bilaspur	Bilaspur
Delhi	1966	Delhi	Delhi
Guwahati	1948 ¹	Assam, Manipur, Meghalaya, Nagaland, Tripura, Mizoram and Arunachal Pradesh	Guwahati (Benches at Kohima, Aizawl, Imphal, Shillong and Agartala)
Gujarat	1960	Gujarat	Ahmedabad
Himachal Pradesh	1971	Himachal Pradesh	Shimla
Jammu & Kashmir	1928	Jammu & Kashmir	Srinagar and Jammu
Jharkhand	2000	Jharkhand	Ranchi
Karnataka	1884 ²	Karnataka	Bangalore
Kerala	1958	Kerala and Lakshadweep	Ernakulam
Madhya Pradesh	1956	Madhya Pradesh	Jabalpur (Benches at Gwalior and Indore)
Madras	1862	Tamil Nadu and Pondicherry	Chennai
Orissa	1948	Orissa	Cuttack
Patna	1916	Bihar	Patna (Bench at Ranchi)

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Punjab and Haryana	1966 ³	Punjab, Haryana and Chandigarh	Chandigarh
Rajasthan	1949	Rajasthan	Jodhpur (Bench at Jaipur)
Sikkim	1975	Sikkim	Gangtok
Uttaranchal	2000	Uttaranchal	Nainital

¹ Originally known as Assam High Court, renamed as Guwahati High Court in 1971.

² Originally known as Mysore High Court, renamed as Karnataka High Court in 1973.

³ Originally known as Punjab High Court, renamed as Punjab and Haryana High Court in 1966.

Each High Court has powers of superintendence over all courts within its jurisdiction. It can call for returns from such courts, make and issue general rules and prescribed forms to regulate their practices and proceedings and determine the manner and form in which book entries and accounts shall be kept.

SUBORDINATE COURTS

The structure and functions of subordinate courts are more or less uniform throughout the country. Designations of courts connote their functions. These courts deal with all disputes of civil or criminal nature as per the powers conferred on them. These courts have been derived principally from two important codes prescribing procedures, *i.e.*, the Code of Civil Procedure, 1908 and the Code of Criminal Procedure, 1973 and further strengthened by local statutes. As per direction of Supreme Court in WP (Civil) 1022/1989 in the All India Judges Association case, a uniform designation has been brought about in the subordinate judiciary's judicial officers all over the country, *viz.*, District or Additional District Judge, Civil Judge (Senior Division) and Civil Judge (Junior Division) on the civil side and on criminal side, Sessions Judge, Additional Sessions Judge, Chief Judicial Magistrate and Judicial Magistrate, etc., as laid down in the Cr. P.C. Appropriate adjustment, if any, has been made in existing posts by indicating their equivalent with any of these categories by all State Governments/UT Administrations.

Under Article 235 of the Constitution of India, the administrative control over the members of subordinate judicial service vests with the concerned High Court. Further in exercise of powers conferred under proviso to Article 309 read with Article 233 and 234 of the Constitution, the State Government shall frame rules and regulations in consultation with the High Court exercising jurisdiction in relation to such State. The members of the State Judicial Services are governed by these rules and regulations.

FIRST NATIONAL JUDICIAL PAY COMMISSION

In March 1996 the Central Government had set up the First National Judicial Pay Commission to evolve the principles governing the structure of pay and other emoluments of Judicial Officers belonging to the Subordinate Judiciary all over the country and also the conditions of service of Judicial Officers in

the States/UTs. The Commission submitted its report in November 1999. The major recommendations of the commission *inter-alia* relate to amalgamation of cadres in judicial services into three uniform cadres, cadre-wise pay scales, allowances and various amenities, sharing of expenditure on construction of Subordinate Courts and quarters for Judicial Officers by the Centre, increase in the retirement age, etc. Subordinate Judiciary is primarily the concern of the State Governments/High Courts. The recommendations of the Commission have been sent to the State Governments/High Courts. The recommendations relating to UTs are under consideration by the Central Government.

FAMILY COURTS

The Family Courts Act, 1984 aims at promoting conciliation in and securing speedy settlement of disputes relating to marriage and family affairs and related matters. It envisages that courts shall be set up in a city or town with a population of more than 10 lakh and at such other places as the State Government may deem necessary. At present there are 80 Family Courts in the country (Andhra Pradesh-seven, Assam-one, Bihar-two, Gujarat-four, Karnataka-eight, Kerala-seven, Maharashtra-sixteen, Manipur-one, Orissa-two, Pondicherry-one, Rajasthan-six, Sikkim-one, Tamil Nadu-six, Uttar Pradesh-sixteen and West Bengal-two). The NCT of Delhi has also been requested to take urgent steps for setting up 15 Family Courts. The Government of Punjab has decided to establish two Family Courts. Besides, necessary notifications extending the jurisdiction of the Family Courts Act have also been issued by the Government of India in respect of Haryana, Madhya Pradesh and the Union Territory of Andaman and Nicobar Islands.

NATIONAL JUDICIAL ACADEMY

The National Judicial Academy has been set up by the Government of India to provide in-service training to judicial officers. The Academy was registered on 17 August 1993 under the Societies Registration Act, 1860. The Academy located in Bhopal has its registered office in New Delhi. The construction of the Academy building at Bhopal is likely to be completed by March 2002. It will provide training to judicial officers of States/UTs as well as ministerial officers working in the Supreme Court of India and the High Courts.

LEGAL AID

Article 39A of the Constitution provides for free legal aid to the poor and the weaker sections of the Society. The Legal Services Authorities Act, 1987 as amended by the Act of 1994, which came into force on 9 November 1995, aims at establishing a nation-wide network for providing free and competent legal services to the weaker sections. National Legal Services Authority (NALSA) has been set up for implementing and monitoring legal aid programmes in the country. The Supreme Court Legal Services Committee has been constituted under the Act. In every High Court also, the High Court Legal Services Committees are being established to provide free legal aid to the eligible persons in legal matters coming before the High Courts. The Act

also provides for Constitution of the State Legal Services Authorities High Court Legal Services Committees, District Legal Services Authorities and *Taluk* Legal Services Committees.

The Central Authority constituted under Section 3 of the said Act is taking steps to establish vibrant legal aid programmes such as promotion of legal literacy, setting up of legal aid clinics in universities and law colleges, training of para-legals, and holding of legal aid camps and *Lok Adalats*. The NALSA is also formulating policies and schemes to achieve the aims and objects of the act.

Under the Legal Services Authorities Act, every citizen whose annual income does not exceed Rs 9,000 is eligible for free legal aid in cases coming before subordinate courts and High Courts. In cases before the Supreme Court, the limit is Rs 12,000. This limit can be increased by the State Governments. Limitation as to the income does not apply in the case of persons belonging to the scheduled castes, scheduled tribes, women, children, handicapped, etc. At the first annual meet of the State Legal Services Authorities held under the aegis of the NALSA on 12 September 1998 at New Delhi, it was unanimously resolved that for cases before High Courts, the minimum income ceiling in every State should be raised to Rs 25,000 per annum and for the cases before the Supreme Court of India, it should be raised to Rs 50,000 per annum. Accordingly, the Central Government has enhanced the annual income ceiling from Rs 18,000 to Rs 50,000. Likewise, a few States, viz., Andhra Pradesh, Delhi, Haryana, Himachal Pradesh, Maharashtra, Meghalaya, Mizoram, Orissa, Rajasthan, Sikkim and UT of Chandigarh, have enhanced the ceiling from Rs 12,000 to Rs 25,000 for cases before their respective High Courts and courts subordinate thereto. In Punjab the limit has been enhanced to Rs 30,000. In Gujarat, however, the limit is Rs 50,000. The matter of revision of the ceiling, is under process in most of the other States.

The Government has sanctioned Rs 6 crore as grant-in-aid for NALSA for 2001-2002 for allocating funds to the State, District Authorities, etc. The NALSA is also monitoring and evaluating the implementation of the legal aid programmes in the country and is taking appropriate measures for spreading legal literacy and legal awareness amongst the weaker sections of the society. Up to 31 March 2001, about 99,000 *Lok Adalats* have been held in different parts of the country where about 1.27 crore cases were settled. In about 6.47 lakh Motor Vehicles Accident Claims cases, compensation amounting to over Rs 3,055.68 crore was awarded. As on 31 March 2001, about 34,75,000 persons have benefited through Legal Aid and Advice in Law Courts throughout the country.

Under the Legal Services Authorities Act, *Lok Adalat* has been given the status of Civil Court and every award made by *Lok Adalat* is final and binding on all parties and no appeal lies before any court against its award. Pursuant to the decision taken at the First Annual Meet of the State Legal Services Authority, permanent and continuous *Lok Adalats* are being set up in every district throughout the country. Efforts are on for establishment of separate *Lok Adalat* for different departments of the State Governments and

public sector undertakings for settling cases pertaining to such government/public sector undertakings in their office premises itself.

Pursuant to the directions of the Delhi High Court, separate permanent and continuous *Lok Adalats* were set up in DVB, MTNL, DDA, MCD, NDMC, GIC and in Tis Hazari, Patiala House and Karkardooma Courts. A scheme for the constitution of permanent and continuous *Lok Adalat* for the Ministries/Departments of Government of India has been implemented in terms of the orders of Delhi High Court.

ATTORNEY-GENERAL

The Attorney General for India is appointed by the President and holds office during the pleasure of the President. He must be a person qualified to be appointed as a Judge of the Supreme Court. It is the duty of the Attorney-General of India to give advice to the Government of India upon such legal matters, and to perform such other duties of a legal character, as may be referred or assigned to him by the President, and to discharge the functions conferred on him by or under the Constitution or any other law. In the performance of his duties, he has the right of audience in all courts in India as well as the right to take part in the proceedings of Parliament, without the right to vote. In the discharge of his functions, the Attorney-General is assisted by Solicitor-General and Additional Solicitors-General.

LEGAL PROFESSION

In India, the law relating to legal profession is governed by the Advocates Act, 1961 and the rules framed thereunder by the Bar Council of India. It is a self-contained code of law relating to legal practitioners and provides for the constitution of State Bar Councils and Bar Council of India. A person enrolled as an advocate under the Advocates Act, 1961, is entitled to practise law throughout the country. An advocate on the roll of a State Bar Council may apply for transfer to the roll of any other State Bar Council in the prescribed manner. No person can be enrolled as an advocate on the roll of more than one State Bar Council.

There are two classes of advocates, namely, senior advocates and other advocates. An advocate with his consent, may be designated as a senior advocate, if the Supreme Court or a High Court is of the opinion that by virtue of his ability, standing at the Bar or special knowledge or experience in law, he deserves such distinction. A senior advocate cannot appear without an advocate-on-record in the Supreme Court or without some other advocate in the state roll in any other court or tribunal. Standards of education have been prescribed for enrolment as an advocate. There are also rules regulating standards of professional conduct and etiquette and other matters. State Bar Councils have disciplinary jurisdiction over advocates whose names appear on their rolls. This is subject to right of appeal to the Bar Council of India and a further right of appeal to the Supreme Court of India.

LAW COMMISSION OF INDIA

The 16th Law Commission was reconstituted on 1 September 2000 for a period of three years with Hon'ble Justice B.P. Jeevan Reddy as Chairman and Mr Justice M. Jagannadha Rao, as Vice-Chairman and Dr N.M. Ghatate as Member and Shri T.K. Viswanathan as Member-Secretary. The terms of reference of the Law Commission are : (a) Review/Repeal of obsolete laws : (i) to identify laws which are no longer needed or relevant and can be immediately repealed; (ii) to identify laws which are in harmony with the existing climate of economic liberalization which need no change; (iii) to identify laws which require changes or amendments and to make suggestions for their amendment; (iv) to consider in a wider perspective the suggestions for revision/amendment given by expert groups in various ministries/departments with a view to coordinating and harmonizing them; (v) to consider references made to it by ministries/departments in respect of legislation having bearing on the working of more than one ministry/departments; (vi) to suggest suitable measures for quick redressal of citizens grievances, in the field of law; (b) Law and Poverty : (i) to examine the laws which affect the poor and carry out post-audit for socio-economic legislations; (ii) to take all such measures as may be necessary to harness law and the legal process in the service of the poor; (c) to keep under review the system of judicial administration to ensure that it is responsive to the reasonable demands of the times and in particular to secure : (i) elimination of delays, speedy clearance of arrears and reduction in costs so as to secure quick and economical disposal of cases without affecting the cardinal principles that decisions should be just and fair; (ii) simplification of procedure to reduce and eliminate technicalities and devices for delay so that it operates not as an end in itself but as a means of achieving justice; (iii) improvement of standards of all concerned with the administration of justice; (d) to examine the existing laws in the light of Directive Principles of State Policy and to suggest ways of improvement and reform and also to suggest such legislation as might be necessary to implement the Directive Principles and to attain the objective set out in the Preamble to the Constitution; (e) to revise the Central Acts of general importance so as to simplify them and to remove anomalies, ambiguities and inequities; (f) to recommend to the Government measures for bringing the statute book up-to-date by repealing obsolete laws and enactments or parts thereof which have outlived their utility; (g) to consider and to convey to the Government its views on any other subject relating to law and judicial administration that may be referred to it by the Government.

Various subjects were taken up by the Commission *suo motu* in view of the importance of the issues while some subjects were taken up on a reference from the Government of India. The consultation papers were issued on review of Working of the Arbitration and Conciliation Act, 1996 and on Law Relating to Arrest by the Law Commission of India with a view to eliciting the views/suggestions on the subject from the public as well as other concerned agencies. In continuation of the ongoing consultation process the

Commission has also organised various seminars at different places in the country on the above mentioned consultation papers. The Commission has so far submitted 175 reports.

ENFORCEMENT AGENCIES

POLICE

The Police force in the country is entrusted with the responsibility of maintenance of public order and prevention and detection of crimes. Public order and police being state subjects under the Constitution, police is maintained and controlled by states.

The Police force in state is headed by the Director General of Police/Inspector General of Police. State is divided into convenient territorial divisions called ranges and each police range is under the administrative control of a Deputy Inspector General of Police. A number of districts constitute the range. District police is further sub-divided into police divisions, circles and police-stations. Besides the civil police, states also maintain their own armed police and have separate intelligence branches, crime branches, etc. Police set-up in big cities like Delhi, Kolkata, Mumbai, Chennai, Bangalore, Hyderabad, Ahmedabad, Nagpur, Pune, etc., is directly under a Commissioner of Police who enjoys magisterial powers. All senior Police posts in various states are manned by the Indian Police Service (IPS) cadres, recruitment to which is made on all-India basis. Recruitment, promotion and cadre control in respect of lower posts from police constable to deputy superintendent of police are done by the State Governments.

The Central Government maintains Central Police forces, Intelligence Bureau (IB), Central Bureau of Investigation (CBI), Institutions for training of police officers and forensic science institutions to assist the States in gathering intelligence, in maintaining law and order, in investigating special crime cases and in providing training to the senior police officers of the State Governments.

CENTRAL BUREAU OF INVESTIGATION

The Central Bureau of Investigation (CBI) was created in April 1963. Prior to that the organisation was known as Special Police Establishment created and functioning under the Delhi Special Police Establishment Act, 1946. In 1963, after the creation of the Central Bureau of Investigation, the functions of this organisation were enlarged covering besides investigation the role of National Central Bureau for India under the International Criminal Police Organisation (INTERPOL), as also the Central Forensic Science Laboratory.

The CBI, through its Special Police Establishment Division, is the principal investigating agency of the Central government and is concerned with the investigation cases of misconduct by public servants in the employment of Central Government and its corporate undertakings; cases in which the interest of the Central government or any corporation or body set up and financed by the Central government are involved, cases relating to breaches

of Central laws in the enforcement of which the Central government is interested; big cases of fraud, cheating and embezzlement and other cases when committed by organized gangs or professional criminals having interstate or international ramifications. CBI derives its power to investigate offences mentioned above from the Delhi Special Police Establishment Act, 1946. CBI indexes criminals involved in international crimes and verifies fingerprints from various foreign national crime bureaux. INTERPOL notices are also circulated to various enforcement agencies in the country.

INDO-TIBETAN BORDER POLICE

The Indo-Tibetan Border Police (ITBP) was raised on 24 October 1962 after the Chinese aggression as an integrated intelligence/signal/pioneer/engineering/medical and Guerrilla Unit and was initially placed under the Intelligence Bureau for operational control. In 1975 the primary task of the ITBP was re-defined as security of northern borders, to check illegal immigration and trans-border crimes. From 1995, ITBP began being inducted in a big way in counter insurgency operations in the Kashmir valley. Commandos of ITBP are providing security cover to HCI Colombo and a few Very Important Persons at Delhi. The task also involves providing pre-induction training to the Indian contingent selected for the UN Peace Keeping Force. It is also recognised for mountaineering, skiing and river-rafting activities. Officers and men of ITBP have scaled the Mt. Everest five times making a tally of more than hundred glorious climbs in the Himalayas, Iran, Alps and USA to its credit.

ITBP is given the responsibility of carrying out medical examination of the pilgrims during Kailash-Mansarovar Yatra. The ITBP has 25 battalions including four specialist battalions, three training institutions and six sector headquarters.

BORDER SECURITY FORCE

The Border Security Force (BSF) raised in 1965, is entrusted with the task of maintaining permanent vigilance on India's international borders. The present strength of BSF is 157 battalions, and it is guarding a total of 6,475.7 km of international borders, spread over mountains, inhospitable deserts, riverine, snow bound and marshy areas. BSF has been assigned the role of promoting a sense of security amongst the people living in the border areas and preventing trans-border crimes, such as smuggling, infiltration/exfiltration and other illegal activities.

ASSAM RIFLES

The Assam Rifles was raised as Cachar Levy in 1835. The force has 33 battalions. It was primarily raised for maintenance of internal security in the tribal areas. The Assam Rifles contribution towards assimilation of the people of north-east into the national mainstream is truly monumental. The force is fondly called "The Sentinels of the North-East" and "Friends of the Hill People."

NATIONAL SECURITY GUARDS

The National Security Guards (NSG) has been set up for handling terrorists, kidnappers, saboteurs, anti-hijacking operations, recovery of hostages, VIP security, etc. It is a highly trained and motivated Force for effectively dealing with terrorist activities in the country. It also trains state police commandos to upgrade their capability to meet the terrorist threats and carry out bomb detection/defusion operations. The elite Force has so far carried out 107 operations in various parts of the country.

CENTRAL RESERVE POLICE FORCE

The Central Reserve Police Force (CRPF) is an Armed Force of the Union of India for internal security management. This Force was raised in 1939 as the Crown Representative's Police and was renamed as Central Reserve Police Force in 1949. CRPF has a strength of 1,81,163 of 141 battalions. The Force remained committed to internal security and counter insurgency-cum-anti-terrorist operations in various parts of the country.

CENTRAL INDUSTRIAL SECURITY FORCE

The Central Industrial Security Force (CISF) was established in 1969 to provide security to industrial undertakings of the Government. The Force numbering over 95,950 has the responsibility to protect and safeguard the industrial undertakings owned by the Central Government together with such installations as are specified to be vital by the Government. CISF is presently stationed in 255 public sector undertakings. The security of 20 Airports and the Government buildings in Delhi has also been entrusted to the CISF.

SARDAR VALLABHBHAI PATEL NATIONAL POLICE ACADEMY

The Sardar Vallabhbhai Patel National Police Academy is the premier police training institution in the country which imparts basic as well as in-service training to Indian Police Service (IPS) officers. Established in 1948 at Mount Abu, Rajasthan, the Academy was shifted to Hyderabad in 1975. The training programmes conducted at the Academy are: the basic course for IPS probationers, three in-service management courses for officers of the junior, middle and top levels of the Indian Police Service, Induction Training Course for SPS Officers, Training of Trainers and training Administrators' Courses, Vertical Interaction Course for IPS Officers, one week seminar on National Security for IAS and IPS officers and short duration specialized courses, seminars and workshops for senior officers from IAS, IPS and Judiciary Services. The Academy also promotes study and research on police-related topics.

CIVIL DEFENCE

Civil Defence aims at saving life, minimising damage to property and maintaining continuity of industrial production in the event of any hostile

attack. Central financial assistance to the states for Civil Defence measures is confined to categorised towns only. Civil Defence is primarily organised on voluntary basis except for a small nucleus of paid staff and establishment which is augmented during emergencies. At the moment Civil Defence activities are restricted to 225 categorised towns spread over 32 States/Union Territories. The present target of Civil Defence volunteers is 9.29 lakh, out of which 5.25 lakh and 4.75 lakh have already been raised and trained respectively.

FIRE SERVICE

Fire is a State subject and fire services are administered by the States/UTs. The Ministry of Home Affairs renders technical advice to States/UTs and Central ministries on fire protection, fire prevention and fire legislation. For the modernisation of fire service in the States, the Ministry of Home Affairs arranges GIC loans through the Ministry of Finance, Insurance Division. From 1980-81, a sum of Rs 293.30 crore GIC loans has been arranged for development of State fire services so far. Fire Service College, Nagpur since its inception in 1956, has so far trained 11,843 fire officers including 71 foreign trainees from 12 countries. As per the statistics available 2,029 fire stations manned by 66,152 professionals are operating in the country with a fleet of 6,457 appliances/vehicles.

HOME GUARDS

Home Guards is a voluntary force, first raised in India in December 1946, to assist the police in controlling civil disturbances and communal riots. Subsequently, the concept of the voluntary citizens force was adopted by several States. In the wake of the Chinese aggression in 1962, the Centre advised the States and Union Territories to merge their existing voluntary organisations into one uniform voluntary force known as Home Guards. The role of Home Guards is to serve as an auxiliary to the police community in any emergency such as an air-raid, fire, cyclone, earthquake, epidemic, etc., help in maintenance of essential services, promote communal harmony and assist the administration in protecting the weaker sections, participate in socio-economic and welfare activities and perform Civil Defence duties. Home Guards are of two types - rural and urban. In border states, Border Wing Home Guards Battalions have also been raised, which serve as an auxiliary to the security forces. The total strength of Home Guards in the country is 5,73,797 against which the raised strength is 4,91,213 Home Guards. The organisation is spread over all States and Union Territories except in Kerala.

Home Guards are raised under the Home Guards Acts and Rules of the States/UTs. They are recruited from various cross-sections of the people. All citizens of India, who are in the age-group of 18-50, are eligible to become members of Home Guards. Normal tenure of membership in Home Guards is three to five years. The facilities given to Home Guards include free uniform and washing allowance, free boarding and lodging during training, cash

awards and medals for gallantry, distinguished and meritorious service. A Home Guard, whenever called for duty/training, is paid duty/training allowance. Members of Home Guards with three years service in the organisation are trained to police in maintenance of law and order, prevention of crime, anti-dacoity measures, border patrolling, flood relief, prohibition, fire-fighting, election duties and social welfare activities.

Expenditure on Home Guards is generally shared between the Central and the State Governments. During 2000-2001, Rs 35 crore was reimbursed to the States on raising and training of Home Guards and their deployment for various purposes. For the year 2001-2002, provision of Rs 36 crore has been made.

PRISONS

"Prisons" is a State subject under the Constitution of India. Prison administration is governed by the State Governments under the provisions of the Indian Prisons Act and the respective Jail Manuals. The Central Government has been providing financial assistance to supplement the efforts of the State Governments for modernisation of prison administration which includes strengthening of security and communication arrangements, repair and renovation of prison buildings, medical facilities, vocational training, facilities for women offenders, etc. Assistance is also provided to a few selected states for construction of high security enclosures for accommodating hard-core terrorists. From 1993 to March 2001 a grant of Rs 79.73 crore was released to various State Governments.

NATIONAL INSTITUTE OF CRIMINOLOGY AND FORENSIC SCIENCE

The National Institute of Criminology and Forensic Science, New Delhi, was set up in 1972 to undertake teaching, training and research in criminology and forensic science. It conducts integrated in-service training programmes for the functionaries of criminal justice system.

Officers from Government departments and public sector undertakings within the country and also from other countries come to this Institute for short-term and long-term orientation/international/professional courses. During 2000-2001, 63 courses were conducted covering more than 1,516 officers drawn from criminal justice administration, defence services and other organisations. The Institute is a reference centre in the field of Criminology and forensic science and has a rich library. It brings out a journal (four-monthly), "Indian Journal of Criminology and Criminalistics".

PERSONAL LAW

The people of India are of different religions and faiths. They are governed by different sets of personal laws in respect of matters relating to family affairs, i.e., marriage, divorce, succession, etc.

MARRIAGE

Law relating to marriage and/or divorce has been codified in different enactments applicable to people of different religions. These are :

1. The Converts' Marriage Dissolution Act, 1866;
2. The Indian Divorce Act, 1869;
3. The Indian Christian Marriage Act, 1872;
4. The Kazis Act, 1880;
5. The Anand Marriage Act, 1909;
6. The Child Marriage Restraint Act, 1929;
7. The Parsi Marriage and Divorce Act, 1936;
8. The Dissolution of Muslim Marriage Act, 1939;
9. The Special Marriage Act, 1954;
10. The Hindu Marriage Act, 1955;
11. The Foreign Marriage Act, 1969; and
12. The Muslim Women (Protection of Rights on Divorce) Act, 1986.

The Special Marriage Act, 1954 extends to the whole of India, except the State of Jammu and Kashmir and also applies to the citizens of India domiciled in the territories to which the Act extends but who are in Jammu and Kashmir. Persons governed by this Act can specifically register marriage under the said Act even though they are of different religious faiths. The Act also provides that the marriage celebrated under any other form can also be registered under the Special Marriage Act, if it satisfies the requirements of the Act. Recently, the Section 4 (b) (iii) of the Act has been amended to omit the words "or epilepsy".

An attempt has been made to codify customary law which is prevalent among Hindus by enacting the Hindu Marriage Act, 1955. The Hindu Marriage Act, 1955, which extends to the whole of India, except the State of Jammu and Kashmir, applies also to Hindus domiciled in territories to which the Act extends and who are outside the said territories. It applies to Hindus (in any of its forms or developments) and also to Buddhists, Sikhs, Jains and also those who are not Muslims, Christians, Parsis or Jews by religion. However, the Act does not apply to members of any scheduled tribes unless the Central Government by notification in the official Gazette otherwise directs. The Act along with the special Marriage Act, 1954 has been amended by the Marriage Laws (Amendment) Act, 1999 to omit the words "or epilepsy" in section 5(ii)(c) of the Act.

Provisions in regard to divorce are contained in Section 13 of the Hindu Marriage Act and Section 27 of the Special Marriage Act. Common ground on which divorce can be sought by a husband or a wife under these Acts fall under broad heads: adultery, desertion, cruelty, unsoundness of mind, venereal disease, leprosy, mutual consent and being not heard of as alive for seven years. As regards the Christian community, provisions relating to marriage and divorce are contained in the Indian Christian Marriage Act, 1872

and in Section 10 of the Indian Divorce Act, 1869 respectively. Under that Section, the husband can seek divorce on grounds of adultery on the part of his wife and the wife can seek divorce on the ground that the husband has become convert to another religion and has gone through marriage with another woman or has been guilty of (a) incestuous adultery, (b) bigamy with adultery, (c) marriage with another woman with adultery, (d) rape, sodomy or bestiality, (e) adultery coupled with such cruelty as without adultery would have entitled her to a divorce, a *mensa etoro* (a system of divorce created by the Roman Catholic Church equivalent to judicial separation on grounds of adultery, perverse practices, cruelty, heresy and apostasy) and (f) adultery coupled with desertion without reasonable excuse for two years or more.

As regards Muslims, marriages are governed by the Mohammedan Law prevalent in the country. As regards divorce, i.e., *Talaq*, a Muslim wife has much restricted right to dissolve her marriage. Unwritten and traditional law tried to ameliorate her position by permitting her to seek dissolution under the following forms : (a) *Talaq-i-Tafwid*: This is a form of delegated divorce. According to this, the husband delegates his right to divorce in a marriage contract which may stipulate that, *inter alia*, on his taking another wife, the first wife has a right to divorce him; (b) *Khula* : This is a dissolution of agreement between the parties to marriage on wife's giving some consideration to husband for her release from marriage ties. Terms are a matter of bargain and usually take the form of the wife giving up her *mehr* or a portion of it, and (c) *Mubarat*: This is divorce by mutual consent.

Further, by the Dissolution of Muslim Marriage Act, 1939, a Muslim wife has been given right to dissolve marriage on these grounds: (i) whereabouts of the husband have not been known for a period of four years; (ii) husband is not maintaining her for a period of two years; (iii) imprisonment of husband for a period of seven years or more; (iv) failure on the part of husband to perform his marital obligations, without a reasonable cause, for a period of three years; (v) impotency of husband; (vi) insanity for a period of two years; (vii) suffering from leprosy or virulent venereal disease; (viii) marriage took place before she attained the age of 15 years and not consummated; and (ix) cruelty.

The Parsi Marriage and Divorce Act, 1936 governs the matrimonial relations of Parsis. The word 'Parsi' is defined in the Act as a Parsi Zoroastrian. A Zoroastrian is a person who professes the Zoroastrian religion. It has a racial significance. Every marriage as well as divorce under this Act is required to be registered in accordance with the procedure prescribed in the Act. However, failure to fulfil requirements on that behalf does not make marriage invalid. The Act provides only for monogamy. By the Parsi Marriage and Divorce (Amendment) Act, 1988 (5 of 1988), scope of certain provisions of the Parsi Marriage and Divorce Act, 1936 have been enlarged so as to bring them in line with the Hindu Marriage Act, 1955.

As for the matrimonial laws of Jews, there is no codified law in India. Even today, they are governed by their religious laws. Jews do not regard marriage as a civil contract, but as a relation between two persons involving very sacred duties. Marriage can be dissolved through courts on grounds of adultery or cruelty. Marriages are monogamous.

CHILD MARRIAGE

The Child Marriage Restraint Act, 1929, as amended in 1978, now provides that marriage age for male will be 21 years and for female 18 years. This amendment has been brought into force from 1 October 1978.

ADOPTION

Although there is no general law of adoption, yet it is permitted by a statute amongst Hindus and by custom amongst a few numerically insignificant categories of persons. Since adoption is legal affiliation of a child, it forms the subject matter of personal law. Muslims, Christians and Parsis have no adoption laws and have to approach court under the Guardians and Wards Act, 1890. Muslims, Christians and Parsis can take a child under the said Act only under foster care. Once a child under foster care becomes major, he is free to break away all his connections. Besides, such a child does not have legal right of inheritance. Foreigners, who want to adopt Indian children have to approach the court under the aforesaid Act. In case the court has given permission for the child to be taken out of the country, adoption according to a foreign law, i.e., law applicable to guardian takes place outside the country.

Hindu law relating to adoption has been amended and codified into the Hindu Adoptions and Maintenance Act, 1956 (78 of 1956), under which a male or female Hindu having legal capacity, can take a son or daughter in adoption. In dealing with the question of guardianship of a minor child, as in other spheres of family law, there is no uniform law. Hindu Law, Muslim Law and the Guardians and Wards Act, 1890 are three distinct legal systems which are prevalent. A guardian may be a natural guardian, testamentary guardian or a guardian appointed by the court. In deciding the question of guardianship, two distinct things have to be taken into account - person of the minor and his property. Often the same person is not entrusted with both.

The Hindu Minority and Guardianship Act, 1956 (32 of 1956) has codified laws of Hindus relating to minority and guardianship. As in the case of uncodified law, it has upheld the superior right of father. It lays down that a child is a minor till the age of 18 years. Natural guardian for both boys and unmarried girls is first the father and then the mother. Prior right of mother is recognised only for the custody of children below five. In case of illegitimate children, the mother has a better claim than the putative father. The Act makes no distinction between the person of the minor and his property and, therefore, guardianship implies control over both. The Act

directs that in deciding the question of guardianship, courts must take the welfare of child as the paramount consideration.

Under the Muslim Law, the father enjoys a dominant position. It also makes a distinction between guardianship and custody. For guardianship, which has usually reference to guardianship of property, according to Sunnis, the father is preferred and in his absence his executor. If no executor has been appointed by the father, the guardianship passes on to the paternal grandfather. Among Shias, the difference is that the father is regarded as the sole guardian but after his death, it is the right of the grandfather to take over responsibility and not that of the executor. Both schools, however, agree that father while alive is the sole guardian. Mother is not recognised as a natural guardian even after the death of the father.

As regards rights of a natural guardian, there is no doubt that father's right extends both to property and person. Even when mother has the custody of minor child, father's general right of supervision and control remains. Father can, however, appoint mother as a testamentary guardian. Thus, though mother may not be recognised as natural guardian, there is no objection to her being appointed under the father's will.

Muslim law recognises that mother's right to custody of minor children (*Hizanat*) is an absolute right. Even the father cannot deprive her of it. Misconduct is the only condition which can deprive the mother of this right. As regards the age at which the right of mother to custody terminates, the Shia school holds that mother's right to the *Hizanat* is only during the period of rearing which ends when the child completes the age of two, whereas Hanafi school extends the period till the minor son has reached the age of seven. In case of girls, Shia laws uphold mother's right till the girl reaches the age of seven and Hanafi school till she attains puberty.

The general law relating to guardians and wards is contained in the Guardians and Wards Act, 1890. It clearly lays down that father's right is primary and no other person can be appointed unless the father is found unfit. This Act also provides that the court must take into consideration the welfare of the child while appointing a guardian under the Act.

MAINTENANCE

Obligation of a husband to maintain his wife arises out of the status of the marriage. Right to maintenance forms a part of the personal law.

Under the Code of Criminal Procedure, 1973 (2 of 1974), right of maintenance extends not only to the wife and dependent children, but also to indigent parents and divorced wives. Claim of the wife, etc., however, depends on the husband having sufficient means. Claim of maintenance for all dependent persons is limited to Rs 500 per month. Inclusion of the right of maintenance under the Code of Criminal Procedure has the great advantage of making the remedy both speedy and cheap. However, divorced wives who have received money payable under the customary personal law

are not entitled to maintenance claims under the Code of Criminal Procedure.

Under Hindu Law, the wife has an absolute right to claim maintenance from her husband. But she loses her right if she deviates from the path of chastity. Her right to maintenance is codified in the Hindu Adoptions and Maintenance Act, 1956 (78 of 1956). In assessing the amount of maintenance, the court takes into account various factors like position and liabilities of the husband. It also judges whether the wife is justified in living apart from husband. Justifiable reasons are spelt out in the Act. Maintenance *pendente lite* (pending the suit) and even expenses of a matrimonial suit will be borne by either, husband or wife, if the either spouse has no independent income for his or her support. The same principle will govern payment of permanent maintenance.

Under the Muslim Law, the Muslim Women (Protection of Rights on Divorce) Act, 1986 protects rights of Muslim women who have been divorced by or have obtained divorce from their husbands and provides for matters connected therewith or incidental thereto. This Act *inter alia* provides that a divorced Muslim woman shall be entitled to (a) reasonable and fair provision and maintenance to be made and paid to her within the *iddat* period by her former husband; (b) where she herself maintains children born to her before or after her divorce, a reasonable and fair provision and maintenance to be made and paid by her former husband for a period of two years from the respective dates of birth of such children; (c) an amount equal to the sum of *mehr* or dower agreed to be paid to her at the time of her marriage or at any time thereafter according to the Muslim Law and (d) all property given to her before or at the time of marriage or after her marriage by her relatives or friends or by husband or any relatives of the husband or his friends.

In addition, the Act also provides that where a divorced Muslim woman is unable to maintain herself after the period of *iddat*, the magistrate shall order directing such of her relatives as would be entitled to inherit her property on her death according to the Muslim Law, and to pay such reasonable and fair maintenance to her as he may determine fit and proper, having regard to the needs of the divorced woman, standard of life enjoyed by her during her marriage and means of such relatives, and such maintenance shall be payable by such relatives in proportion to the size of their inheritance of her property and at such periods as he may specify in his order.

Where such divorced woman has children, the magistrate shall order only such children to pay maintenance to her, and in the event of any such children being unable to pay such maintenance, the magistrate shall order parents of such divorced woman to pay maintenance to her.

In the absence of such relatives or where such relatives are not in a position to maintain her, the magistrate may direct State Wakf Board established under Section 13 of the Wakf Act, 1995 functioning in the area in which the woman resides, to pay such maintenance as determined by him.

The Parsi Marriage and Divorce Act, 1936 recognises the right of wife to maintenance—both alimony *pendente lite* and permanent alimony. The maximum amount that can be decreed by court as alimony during the time a matrimonial suit is pending in court, is one-fifth of the husband's net income. In fixing the quantum as permanent maintenance, the court will determine what is just, bearing in mind the ability of husband to pay, wife's own assets and conduct of the parties. The order will remain in force as long as wife remains chaste and unmarried.

The Indian Divorce Act, 1869 *inter alia* governs maintenance rights of a Christian wife. The provisions are the same as those under the Parsi law and the same considerations are applied in granting maintenance, both alimony *pendente lite* and permanent maintenance.

SUCCESSION

The Indian Succession Act was enacted in 1925. The object of the Act was to consolidate the large number of laws which were in existence at that time. Laws governing succession to Muslims and Hindus were excluded from the purview of the Act. While consolidating the laws in respect of succession, two schemes, one relating to succession to property of persons like Indian Christians, Jews and persons married under the Special Marriage Act, 1954 and the other relating to succession rights of Parsis, were adopted.

In the first scheme, applying to those other than Parsis, in the case of a person dying intestate leaving behind a widow and lineal descendants, the widow would be entitled to a fixed share of one-third of property and lineal descendants shall be entitled to the remaining two-third. This law was amended subsequently with the object of improving rights of widows and it was provided that where the intestate dies leaving behind his widow and no lineal descendant and the net value of the estate does not exceed Rs 5,000, the widow would be entitled to the whole of his property. Where the net value of the estate exceeds Rs 5,000 she is entitled to charge for the sum of Rs 5,000 with interest at four per cent payment and in the residue, she is entitled to her share. The Act imposes no restriction on the power of a person to will away his property.

Under the second scheme, the Act provides for Parsi intestate succession. By the Indian Succession (Amendment) Act, 1991 (51 of 1991), the Act has been amended to provide equal shares for both sons and daughters in their parental properties, irrespective of the fact that it was that of the father or that of the mother. It also enables the Parsis to bequeath their property to religious or charitable purposes, etc., without any restrictions. In effect the amended law provides that where a Parsi dies intestate leaving behind a widow or widower as the case may be, and children, the property shall be divided so that the widow or widower and each child receives equal shares. Further, where a Parsi dies leaving behind one or both parents in addition to children, or widow or widower and children, the property shall be so divided that the parent or each of the parents shall receive a share equal to half the share of each child.

The law relating to intestate succession among Hindus is codified in the Hindu Succession Act, 1956 (30 of 1956). It extends to the whole of India except the State of Jammu and Kashmir. The remarkable features of the Act are the recognition of the right of women to inherit property of an intestate equally with men and abolition of the life estate of female heirs.

A vast majority of Muslims in India follow Hanafi doctrines of Sunni law. Courts presume that Muslims are governed by Hanafi law unless it is established to the contrary. Though there are many features in common between Shia and Sunni schools, yet there are differences in some respects. Sunni law regards Koranic verses of inheritance as an addendum to pre-Islamic customary law and preserves the superior position of male agnates. Unlike Hindu and Christian laws, Muslim law restricts a person's right of testation. A Muslim can bequeath only one-third of his estate. A bequest to a stranger is valid without the consent of heirs if it does not exceed a third of the estate, but a bequest to an heir without the consent of other heirs is invalid. Consent of heirs to a bequest must be secured after the succession has opened and any consent given to a bequest during the lifetime of the testator can be retracted after his death. Shia law allows Muslims the freedom of bequest within the disposable third.

ACTS OF PARLIAMENT

During 2000, 56 Bills were enacted into Acts. A list of these Acts is furnished below :

1. The Recovery of Debts Due to Banks and Financial Institutions (Amendment) Act, 2000.
2. The Telecom Regulatory Authority of India (Amendment) Act, 2000.
3. The Appropriation (Railways) Vote on Account Act, 2000.
4. The Appropriation (Railways) Act, 2000.
5. The Appropriation (Vote on Account) Act, 2000.
6. The Appropriation Act, 2000.
7. The Small Industries Development Bank of India (Amendment) Act, 2000.
8. The Mizoram University Act, 2000.
9. The Appropriation (Railways) No. 2 Act, 2000.
10. The Finance Act, 2000.
11. The Appropriation (No. 2) Act, 2000.
12. The Food Corporations (Amendment) Act, 2000.
13. The Sugarcane Control (Additional Powers) Repeal Act, 2000.
14. The President's Emoluments and Pension (Amendment) Act, 2000.

15. The National Housing Bank (Amendment) Act, 2000.
16. The Designs Act, 2000.
17. The Salary, Allowances and Pension of Members of Parliament (Amendment) Act, 2000.
18. The Leaders and Chief Whips of Recognised Parties and Groups in Parliament (Facilities) Amendment Act, 2000.
19. The Cotton Textiles Cess (Repeal) Act, 2000.
20. The Direct-Tax Laws (Miscellaneous) Repeal Act, 2000.
21. The Information Technology Act, 2000.
22. The Major Port Trusts (Amendment) Act, 2000.
23. The Insecticides (Amendment) Act, 2000.
24. The Indian Companies (Foreign Interests) and the Companies (Temporary Restrictions on Dividends) Repeal Act, 2000.
25. The Cotton Cloth (Repeal) Act, 2000.
26. The Iron and Steel Companies (Amalgamation and Takeover Laws) Repeal Act, 2000.
27. The Motor Vehicles (Amendment) Act, 2000.
28. The Madhya Pradesh Reorganisation Act, 2000.
29. The Uttar Pradesh Reorganisation Act, 2000.
30. The Bihar Reorganisation Act, 2000.
31. The Army and Air Force (Disposal of Private Property) Amendment Act, 2000.
32. The Indian Power Alcohol (Repeal) Act, 2000.
33. The All India Institute of Medical Sciences (Amendment) Act, 2000.
34. The Chemical Weapons Convention Act, 2000.
35. The Border Security Force (Amendment) Act, 2000.
36. The Cable Television Networks (Regulation) Amendment Act, 2000.
37. The Semiconductor Integrated Circuits Layout-Design Act, 2000.
38. The Rehabilitation Council of India (Amendment) Act, 2000.
39. The State Financial Corporations (Amendment) Act, 2000.
40. The Appropriation (No. 3) Act, 2000.
41. The Appropriation (No. 4) Act, 2000.
42. The Appropriation (Railways) No. 3 Act, 2000.

43. The Appropriation (Railways) No. 4 Act, 2000.
44. The Multimodal Transportation of Goods (Amendment) Act, 2000.
45. The Coal India (Regulation of Transfers and Validation) Act, 2000.
46. The Workmen's Compensation (Amendment) Act, 2000.
47. The Passport (Entry into India) Amendment Act, 2000.
48. The Forfeiture (Repeal) Act, 2000.
49. The Protection of Human Rights (Amendment) Act, 2000.
50. The Punjab Municipal Corporation Law (Extention to Chandigarh) Amendment Act, 2000.
51. The Aircraft (Amendment) Act, 2000.
52. The Immigration (Carrier's Liability) Act, 2000.
53. The Companies (Amendment) Act, 2000.
54. The Central road Fund Act, 2000.
55. The National Bank for Agriculture and Rural Development (Amendment) Act, 2000.
56. The Juvenile Justice (Care and Protection of Children) Act, 2000.

CENTRAL ACTS, 2001

(Up to 17 September 2001)

Sl. No.	Act. No.	Short Title
1.	1 of 2001	The Taxation Laws (Amendment) Act, 2000
2.	2 of 2001	The Appropriation (No. 5) Act, 2000
3.	3 of 2001	The Appropriation (Railways) No. 5 Act, 2000
4.	4 of 2001	The Taxation Laws (Amendment) Act, 2001
5.	5 of 2001	The Appropriation (Railways) Vote on Account Act, 2001
6.	6 of 2001	The Appropriation (Railways) Act, 2001
7.	7 of 2001	The Appropriation (Vote on Account) Act, 2001
8.	8 of 2001	The Appropriation Act, 2001
9.	9 of 2001	The Narcotic Drugs and Psychotropic Substances (Amendment) Act, 2001.
10.	10 of 2001	The Chitfunds (Amendment) Act, 2001
11.	11 of 2001	The Insurance Laws (Transfer of Business and Emergency Provisions) Repeal Act, 2001
12.	12 of 2001	The Colonial Prisoners Removal (Repeal) Act, 2001
13.	13 of 2001	The Appropriation (Railways) No. 2 Act, 2001
14.	14 of 2001	The Finance Act, 2001

15. 15 of 2001 The Appropriation (No. 2) Act, 2001
16. 16 of 2001 The Vaccination (Repeal) Act, 2001
17. 17 of 2001 The U.P. Sugarcane Cess (Validation) Repeal Act, 2001
18. 18 of 2001 The Post Graduate Institute of Medical Education and Research, Chandigarh (Amendment) Act, 2001
19. 19 of 2001 The Industrial Disputes (Banking Companies) Decision (Repeal) Act, 2001
20. 20 of 2001 The Banking Companies (Legal Practitioners' Clients' Accounts) Repeal Act, 2001
21. 21 of 2001 The Electricity Regulatory Commissions (Amendment) Act, 2001
22. 22 of 2001 The Judicial Administration Laws (Repeal) Act, 2001
23. 23 of 2001 The Warehousing Corporations (Amendment) Act, 2001
24. 24 of 2001 The Indian Railway Companies (Repeal) Act, 2001
25. 25 of 2001 The Railway Companies (Substitution of Parties in Civil Proceedings) Repeal Act, 2001
26. 26 of 2001 The Hyderabad Export Duties (Validation) Repeal Act, 2001
27. 27 of 2001 The Food Corporations (Amendment) Act, 2001
28. 28 of 2001 The Live-stock Importation (Amendment) Act, 2001
29. 29 of 2001 The Indian Council of World Affairs Act, 2001
30. 30 of 2001 The Repealing and Amending Act, 2001
31. 31 of 2001 The Trade Unions (Amendment) Act, 2001
32. 32 of 2001 The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Amendment Act, 2001
33. 33 of 2001 The Influx from Pakistan (Control) Repealing (Repeal) Act, 2001
34. 34 of 2001 The Indian Medical Council (Amendment) Act, 2001
35. 35 of 2001 The Sugarcane Cess (Validation) Repeal Act, 2001
36. 36 of 2001 The Indian Universities (Repeal) Act, 2001
37. 37 of 2001 The Auroville (Emergency Provisions) Repeal Act, 2001
38. 38 of 2001 The Government of Union Territories and Government of National Capital Territory of Delhi (Amendment) Act, 2001
39. 39 of 2001 The Motor Vehicles (Amendment) Act, 2001
40. 40 of 2001 The Inland Waterways Authority of India (Amendment) Act, 2001
41. 41 of 2001 The Central Sales Tax (Amendment) Act, 2001
42. 42 of 2001 The Appropriation (No. 3) Act, 2001
43. 43 of 2001 The Manipur Appropriation (Vote on Account) Act, 2001
44. 44 of 2001 The Salaries and Allowances of Ministries (Amendment) Act, 2001
45. 45 of 2001 The Advocates' Welfare Fund Act, 2001
46. 46 of 2001 The Salary, Allowances and Pension of Members of Parliament (Amendment) Act, 2001
47. 47 of 2001 The Two-Member Constituencies (Abolition) and Other Laws Repeal Act, 2001.

27 Youth Affairs and Sports

YOUTH represent the most vibrant section of the society. They play a pivotal role in socio-economic changes and development of the society. A nation can progress only when the energy of youth is channelised into constructive work. It is imperative that youth are given a major role in the process of development. In India, the youth form nearly 40 per cent of the total population. With the objective of fulfilling the aspirations of this group and empowering them as the active and constructive agents of positive change, the Ministry of Youth Affairs & Sports has been implementing several programmes.

YOUTH SERVICES

NATIONAL YOUTH POLICY

The National Youth Policy was formulated in 1988. The main objectives of the Youth Policy are to instil in the youth respect for the principles and values enshrined in our Constitution; to promote an awareness of our historical heritage; to help develop scientific temper and the qualities of discipline, self-reliance, justice and fair play; and to provide them access to education in addition to developing their personality. It also aims at making the youth conscious of international issues and involving them in promoting world peace and a just international economic order.

A need was, however, felt for a new National Youth Policy which would cope with the fast-changing socio-economic scenario in the country and also address the future concerns of the youth. The process of formulating it was initiated in consultation with various State governments, youth wings of political parties, Members of Parliament, youth organisations, as well as other concerned agencies.

The Draft New National Youth Policy recognises that youth development is a multisectoral concept and calls for an integrated approach. It stresses that the youth should be given more access to the process of decision-making and implementation. It also defines the privileges and responsibilities of youth. The draft policy has set out four thrust areas, *viz.*, Youth Empowerment, Gender Justice, Inter-sectoral Approach and Information and Research Network.

The Policy recognises the key sectors of concern for youth, such as education, training and employment, health, etc., and accords high priority to certain categories of youth such as, youth with disabilities, rural youth, unemployed youth and street children, etc. The Policy also focusses on adolescent health, AIDS and sexually transmitted diseases, nutrition, environment, sports, recreation and leisure, art and culture, gender justice, science and technology, civic sense and citizenship.

NATIONAL SERVICE SCHEME

National Service Scheme, popularly known as NSS, was launched in 1969 with primary focus on the development of personality of students through community service. Today, NSS has over 17 lakh student volunteers on its rolls spread over 180 universities, and 22 senior secondary councils. So far, more than 1.52 crore students have benefited from NSS activities as NSS volunteers. Due to its overwhelming popularity and demand, the scheme was extended to the students of +2 level in selected institutions.

The National Service Scheme has two types of programmes, viz., "Regular Activities" and "Special Camping Programme", undertaken by its volunteers. Under 'Regular Activities', students are expected to work as volunteers for two years, rendering community service for a minimum of 120 hours per annum. The activities include constructive work in adopted villages and slums, blood donation, adult and non-formal education, health, nutrition, family welfare, AIDS awareness campaigns, tree plantation, improvement of campuses, etc. Under "Special Camping Programme", a camp of 10 days' duration is conducted every year in the adopted areas on a specific theme like "Youth for Afforestation and Tree Plantation", "Youth for Rural Reconstruction", "Youth for Development", "Youth for Mass Literacy", "Youth for Social Harmony", and "Youth for Healthy Society", etc.

NEHRU YUVA KENDRA SANGATHAN

Nehru Yuva Kendra Sangathan (NYKS) is an autonomous organisation of the Ministry of Youth Affairs and Sports. NYKS has its offices in 500 districts of the country. It has become the largest grass-root level organisation in the world, catering to the needs of more than eight million non-student rural youth enrolled through 1.81 lakh village-based Youth Clubs. These Youth Clubs work in the areas covering education and training, awareness generation, skill development and self-employment, entrepreneurial development, thrift and co-operation, besides development of the body through sports and adventure and mind through sustained exposure to new ideas and development strategies. For implementation of the programmes, every district NYK has a network of trained cadre of District Youth Coordinators, National Service Volunteers and Youth Leaders. The strength of NYKS is its vast network of Youth Clubs at grassroots level.

Regular Programmes of NYKS are : Youth Club development programmes; vocational training programmes; awareness generation campaigns; work camps; celebration of National Youth Day and Youth Week; sports promotion programmes and cultural programmes, workshops and seminars and adventure promotion programmes.

A two-day Millennium Youth Parliament was organised on 26-27 April 2000 in New Delhi. Its objective was to bring together young achievers from diverse fields to deliberate on burning issues facing the youth and the country. More than 300 young achievers of the country, participated in the Parliament. Besides young achievers of SAARC countries also participated.

NYKS also implements the following schemes of the Ministry of Youth Affairs and Sports on an agency basis : (a) Youth development centres; and (b) financial Assistance to Rural Youth & Sports Clubs.

NATIONAL SERVICE VOLUNTEER SCHEME

The National Service Volunteer Scheme launched in 1977-78 aims at providing opportunities to students to involve themselves, on a voluntary basis, in nation building activities for a year or two. Any student who has completed his/her degree course and is below 25 years of age may get himself/herself enrolled as a National Service Volunteer (NSV) for one/two years. The requirement of age and educational qualification can be relaxed in case of SC/ST and women volunteers. Each volunteer is paid a stipend of Rs 500 and a fixed travelling allowance of Rs 200 per month in addition to a contingency grant of Rs 100 per year. During 2000-01, 5,443 NSVs were deployed with the Nehru Yuva Kendra Sangathan, National Service Scheme, Bharat Scouts and Guides and State governments.

NATIONAL RECONSTRUCTION CORPS

The National Reconstruction Corps Scheme (NRC) was launched on 30 June 1999 as a pilot project in the Central Sector. The scheme aims at harnessing the youth energy in constructive channels on a sustained basis. The NRC volunteers with a minimum matriculation qualification, and having attained 18 years of age will be paid an honorarium of Rs 1,000 per month for one year. They will work on programmes and projects of the various departments/agencies of the Central/State governments and even of voluntary organisations.

The scheme which became operational during 2001-02 will be evaluated during its pilot phase.

ASSISTANCE TO VOLUNTARY ORGANISATIONS

The scheme provides financial assistance to voluntary organisations to involve the youth for developmental activities, specially in the rural areas. Assistance is extended to registered bodies, public trusts and non-profit making companies. The main focus has been on vocational training programme to promote self-employment for youth. Assistance is also given for conducting youth leadership training programme to promote cadres of young dynamic persons who would act as catalysts of social change in the rural areas. During 2000-2001 an amount of Rs 190 lakh was released to 142 voluntary organisations, benefitting 7,635 persons.

TRAINING OF YOUTH

The Scheme is being implemented through voluntary organisations, Nehru Yuva Kendras, NSS regional centres, educational institutions and State governments/UT administrations. The training covers a wide range of disciplines like agriculture, animal husbandry, dairy, poultry, establishment of co-operative societies, agro-services centres, smokeless *chullahas*, biogas plants, etc. Other training programmes aimed at uplifting the functional

capabilities of the rural youth and preparing them for self-employment are encouraged. During 2000-2001 an amount of Rs 175 lakh was released to 95 voluntary organisations for training 3,965 youth.

PROMOTION OF ACTIVITIES AMONG TRIBAL YOUTH

Under the scheme, Central assistance is given to voluntary organisations, NSS regional centres, educational institutions including universities, Nehru Yuva Kendras and Bharat Scouts and Guides and also to State governments/UT administrations for conducting youth leadership training programmes and vocational and training for self-employment. During 2000-2001 an amount of Rs 200 lakh was released to 155 voluntary organisations for 8,495 youth.

EXHIBITIONS FOR YOUTH

The scheme aims at: (i) projecting and recognising the activities and contribution made by youth in various fields of national development; (ii) promoting the spirit of secularism and national integration; (iii) enabling youth to know more about the life and culture of other parts of the country; and (iv) exhibitions on folk dances, folk songs, painting, art and crafts, books, as well as on various development and youth related schemes. Financial assistance is given to voluntary organisations, NYK Sangathan, NSS regional centres, educational institutions including universities, State governments and UTs. The Ministry of Youth Affairs and Sports also organises such exhibitions itself.

RAJIV GANDHI NATIONAL INSTITUTE OF YOUTH DEVELOPMENT

The Rajiv Gandhi National Institute of Youth Development at Sriperumbudur (Tamil Nadu) functions as an autonomous body for coordinating and monitoring youth related activities in the country. The Institute is to function as: (i) a research agency and think-tank for youth programmes, policies and implementation strategies; (ii) develop multi-faceted programmes for youth; (iii) function as an institute for advanced studies in the field of youth; (iv) function as a Centre for documentation, information and publication pertaining to youth development; and (v) work as a Resource Centre.

SCOUTING AND GUIDING

Scouting and Guiding is an educational and international movement aimed at developing the character of boys and girls. It inculcates in them a spirit of patriotism, sympathy for others and social service. Bharat Scouts and Guides mainly promotes these activities in India. The Ministry of Youth Affairs and Sports extends financial assistance. It is the third largest youth organisation in the world with about 85,000 units having an enrolment of about 35 lakh students all over the country. The activities of units include adult literacy, tree plantations, community service, leprosy awareness, promotion of hygiene and sanitation, etc.

PROMOTION OF ADVENTURE

This scheme aims at fostering in youth the spirit of risk-taking, endurance, cooperative team work and encouraging quick, ready and effective reflexes

in challenging situations. Financial assistance is provided to institutions, groups, individuals and voluntary organisations for undertaking adventure activities. The major thrust during 2000-2001 has been on providing financial assistance for creation of infrastructure and promotion of Aero-Sports and Water Sports.

PROMOTION OF NATIONAL INTEGRATION

The Scheme for Promotion of National Integration aims at providing financial assistance for youth programmes fostering national integration and communal harmony. National Integration camps and Inter-State Youth Exchange programmes are the main programmes held under the scheme.

YOUTH FESTIVAL

A 3 day-long festival of youth and youth convention was held in Delhi from 12-14 January 2001.

National Youth Awards for 1999-2000 were given away to 49 individuals and two voluntary organisations for their excellent work in the field of social development.

YOUTH HOSTELS

Youth Hostels are built to promote youth travel to enable the young people experience the rich cultural heritage of our country. The construction of Youth Hostels has been conceived as a joint venture of the Central and State governments. While the Central Government bears the cost of construction, the State government provides developed land free of cost with water, electricity and approach roads. Youth Hostels, after completion, are handed over to the State government for management. So far, 63 Youth Hostels have been constructed and 20 are under construction.

ASSISTANCE TO RURAL YOUTH AND SPORTS CLUBS

The Ministry of Youth Affairs & Sports had earlier formulated the schemes for providing financial assistance to Rural Sports Clubs, Youth Clubs and the awards to outstanding Youth Clubs which were merged into a single scheme in 1998-99. The merged scheme known as Assistance to Rural Youth and Sports Clubs is being implemented by NYKS on an agency basis. The scheme has the following components: Each Youth Club is given a one-time financial assistance of Rs 15,000 in tribal areas and of Rs 10,000 for normal areas while each sports club is given assistance for non-consumable and consumable sports equipments as a one-time grant up to Rs 30,000 in normal areas and up to Rs 45,000 in case of tribal blocks. The scheme for awards to outstanding Youth Clubs is operated on a three-tier basis, *viz.*, district, state and national levels. Awards at the District level and State level are of Rs 10,000 and Rs 25,000 respectively while at the National level, there are three awards of Rs 1,00,000 Rs 50,000 and Rs 25,000 respectively. The prize money is used for community-based projects.

YOUTH DEVELOPMENT CENTRES

The Scheme of Youth Development Centres was introduced during 1994-95. It aims at providing an intermediate tier between youth clubs at the village level and Nehru Yuva Kendras at the district level. The Youth Development Centres are intended to become the focal point for all youth activities in a cluster of about 10 villages covered by them. It has been decided to merge the Scheme with the Scheme of financial Assistance to Rural Youth and Sports Clubs in 2001-2002.

SPORTS

NATIONAL SPORTS POLICY

The Policy resolution of 1984 is based on a time-bound programme to provide infrastructure for sports in villages and towns and also provide appropriate equipments. It enjoins upon the government to preserve play fields and open spaces and emphasises the necessity of effective training and competition programmes for preparation of national teams to participate in international competitions. A New National Sports Policy is being formulated which lays stress upon broad-basing of sports and achieving excellence in performance.

SPORTS AUTHORITY OF INDIA

Sports Authority of India (SAI) was established by the Government of India in January 1984 as a registered society primarily to ensure effective maintenance and optimum utilisation of the various sports infrastructure that were built in Delhi during Asiad 1982. It is now the nodal agency in the country for broad basing sports and for training of sports persons to achieve excellence in national and international sports arena. In order to have only one government agency at the apex for the promotion of sports, the Society for National Institute of Physical Education & Sports (SNIPES) was merged with SAI with effect from 1 May 1987. Subsequently Netaji Subhash National Institute of Sports (NSNIS), Patiala and its allied centres at Bangalore, Kolkata and Gandhinagar and Lakshmibai National Colleges of Physical Education at Thiruvananthapuram came under Sports Authority of India (SAI). It has now six regional centres at Bangalore, Gandhinagar, Kolkata, Chandigarh, Delhi and Imphal. The regional centre of Delhi is being shifted to Bhopal. SAI has one sub-centre at Guwahati.

SAI operates various schemes like National Sports Talent Contest (NSTC), Army Boys Sports Company (ABSC), SAI Training Centres (STC) and Special Area Games (SAG) at sub-junior, junior and senior level schemes. Recently SAI has set up centres of excellence at each of its regional centres. The National Coaching Scheme of SAI provides coaches for training sportspersons to State/UT Sports Councils at their State and District Coaching Centres, SAI Schemes, National Coaching Camps and for conducting Academic Courses in Sports Coaching at NSNIS Patiala.

LAKSHMIBAI NATIONAL INSTITUTE OF PHYSICAL EDUCATION

The Lakshmibai National Institute of Physical Education was established initially as a College on 17 August 1957 at Gwalior, where Rani Lakshmibai

of Jhansi laid down her life for the country's freedom struggle. It has been upgraded to a 'Deemed University' status in 1995. Fully funded by the Government of India the Institute offers the following full time courses: (i) Bachelor of Physical Education (BPE) (three-year degree course); (ii) Master of Physical Education (MPE) (two-year course); (iii) MPE (Summer Course) (three-year course) for in-service teachers; and (iv) M. Phil in Physical Education (one-year course).

The Institute also conducts in-service training programmes in physical education for ex-army personnel, refresher/orientation course for physical education teachers.

GRANTS FOR CREATION OF SPORTS INFRASTRUCTURE

The Central Government supplements efforts of the State governments, State sports councils, etc., for improving and creating infrastructural facilities for sports. Grants are given for construction of stadia, swimming pools, gymnasias, sports complexes, etc. Mostly, financial assistance is given on a sharing basis of 50:50 between the Centre and State/Union Territories. For special category states, hilly/tribal areas, the Central contribution is 75 per cent subject to a maximum of a certain specified ceiling. Scope of this scheme has since been enlarged to assist the State governments/UT administrations. States/UT administrations are also eligible for assistance up to Rs five lakh for construction/improvement of certain facilities in their schools. The budget allocation for the scheme is Rs 10 crore in the year 2001-2002.

GRANTS FOR SYNTHETIC TRACKS/ARTIFICIAL SURFACES

The Central Government gives grants for laying of synthetic tracks and artificial surfaces for hockey and other synthetic surfaces such as volleyball, basketball, tennis; etc. With a number of synthetic surfaces having come up backed by financing from State governments, local bodies, etc., the Central Government has now decided to concentrate only on hockey surfaces and athletics tracks. Accordingly Central assistance up to Rs one crore or 50 per cent of the estimated cost, whichever is less, is provided for laying or replacement of the hockey surfaces and athletic tracks only.

PROMOTION OF SPORTS IN THE UNIVERSITIES/COLLEGES

Under the Scheme of Grants for Promotion of Sports in University and Colleges, assistance is provided to the Universities/Colleges for development of playgrounds, construction of Indoor Stadium/facilities in the ratio of 75:25 in the case of universities/colleges situated in Special Category States and in the ratio of 50:50 to all other States, subject to a certain ceiling. Assistance is also given for purchase of sports equipment up to a maximum ceiling of Rs three lakh. The Association of Indian Universities is also provided assistance for holding coaching/training camps of sports persons, inter-university tournaments and participation in foreign tournaments. Maulana Abul Kalam Azad Trophy is awarded every year to the overall winner of inter-university tournaments. Cash incentives of Rs one lakh, Rs 50,000 and Rs 25,000 are also given to the universities winning the first three positions for purchase of sports equipment.

NATIONAL SPORTS FESTIVAL FOR WOMEN

The Scheme which started in 1975 aims at promoting sports among women. The National Sports Festival organised by Sports Authority of India has now become a significant national competition for women. Financial assistance is given at the rate of Rs 1,000 per block, Rs 3,000 per district and Rs 10,000 for State level tournaments for larger States and Rs 5,000 for smaller States.

SPORTS SCHOLARSHIP SCHEME

Sports Talent Search Scholarship scheme launched in 1970-71 has culminated in Sports Scholarship Scheme 1997. National level, State level and university/college level scholarships at the rate of Rs 600, Rs 450 and Rs 750 per month respectively are given under the scheme. Besides, special scholarship of Rs 1,000 per month for senior women champions, Rs 6,000 per course for women doing diploma in sports coaching and Rs 6,000 per annum for women doing M. Phil/Ph.D are sanctioned under the scheme.

ASSISTANCE TO PROMISING SPORTSPERSONS AND SUPPORTING PERSONNEL

Under the scheme selected sportspersons holding national records in the priority disciplines are provided a package of assistance up to Rs five lakh per year for coaching, equipment, participation in national and international tournaments, etc., on a long-term basis. The coaches, sports scientists and other sportspersons are also assisted for up-gradation of their skills and assisting the promising sports persons for achieving excellence at international level.

ARJUNA AWARDS

The Arjuna Award instituted in 1961 is the highest national recognition conferred on distinguished sportspersons. The award consists of a bronze statuette of Arjuna, a scroll, a cash prize of Rs 1,50,000 and ceremonial dress. Arjuna Awards for the year 2000 were presented by the President of India to outstanding sports persons at Rashtrapati Bhawan on 29 September 2001.

GRANTS TO NATIONAL SPORTS FEDERATION

The Ministry gives financial assistance to 63 recognised National Sports Federations for conducting National Sports Championships at sub-junior, junior and senior level at the rate of Rs three lakh, Rs two lakh and Rs one lakh respectively. Financial assistance to priority and general category of sports disciplines is also provided for participation in international sports tournaments/championships.

INCENTIVES FOR PROMOTION OF SPORTS ACTIVITIES

Rajiv Gandhi Khel Ratna Awards : Under this scheme an amount of Rs three lakh is given as award for the most spectacular and outstanding performance in the field of sports by an individual sports person or a team in a particular year.

Special Awards to Winners in International Sports Events and their Coaches : To attract the young generation to take sports as a career and to encourage the outstanding sports persons for even higher achievements, special awards to winners of international sports events and their coaches were introduced in 1986. The amount of awards ranges from Rs 75,000 to Rs 15 lakh.

Sports Fund for Pension to Meritorious Sports Persons : Under the scheme, launched in 1994 pension is given to winners of medals in Olympic, World Cup and World championships and Gold Medal in Asian and Commonwealth Games. While Olympic Games medalists and Gold medalists of World Cups and World Championship are given an amount of Rs 2,500 per month the silver and bronze medalist of World Cups and World Championships and Gold Medalists of Asian Games and Commonwealth Games get Rs 2,000 as monthly pension from the age of 30 years, which continues till their lifetime.

Promotion of Sports and Games in Schools : The scheme was launched in 1986 with the objectives of promoting sports in schools. It has been amended to generate interest in sports and games in school children and place greater emphasis on the organisation of tournaments at various levels. The State governments are given financial assistance at the rate of Rs two lakh for organisation of State Level School Tournaments and Rs 50,000 per district for organisation of Inter-School Tournaments.

NATIONAL WELFARE FUND FOR SPORTSPERSONS

National Welfare Fund for sportspersons was created in 1982 primarily to assist sports persons of yesteryears who are living in indigent circumstances. Financial support is generally in the form of a monthly pension up to Rs 2,500. Lump-sum grants are also given for medical treatment. The sportspersons suffering from grievous and fatal injuries in the course of participation in sports events during training are also helped.

RURAL SPORTS PROGRAMME

The scheme being operated by SAI lays emphasis on arranging tournaments in rural areas and at the block, district, state and national levels. It also includes special component for the North-Eastern Region, i.e., North Eastern Sports Festival. For the organisation of State/UT level tournaments, an assistance of Rs 30,000 per discipline is given to the State government and Rs 15,000 per discipline to the Union Territories. Financial assistance of Rs two lakh per discipline is made available to SAI for organising tournaments in various states by rotation. For North Eastern Sports Festival, up to Rs 15 lakh is given to SAI for holding the tournaments annually.

NATIONAL SPORTS DEVELOPMENT FUND

A National Sports Development Fund has been set up to mobilize financial resources from Government, corporate and private sector as well as individuals for promotion of sports. The Ministry contributed Rs two crore during 1998-99. During 2001-2002, there is a budget provision of Rs one crore.

INTERNATIONAL COOPERATION

The Commonwealth Youth Programme (CYP) came into being in 1974 with the purpose of promoting the development of young men and women in the Commonwealth. Its main objectives are : to encourage and support participation of youth in the process of national development; to give recognition to youth in the process of national development; to give recognition to the contribution made by youth in economic, social and cultural development; to promote productive activity in order to eliminating unemployment; and to provide opportunities for international understanding among youth. The headquarters of CYP is at the Commonwealth Secretariat, London and one of its four Regional Centres is in Chandigarh for the Asia Region. The programmes are financed by the member countries. India's contribution to CYP during 2000-2001 was Rs 57.84 lakh.

UNITED NATIONS VOLUNTEER SCHEME

This is a scheme of the United Nations Development Programme (UNDP) operating in over 143 developing countries of Africa, Asia, the Pacific, Central and Latin America, the Carriibbean, CTS and Baltic countries and the Middle East. The volunteers are paid a monthly living allowance ranging from US \$ 560 to \$ 1,783. India contributes a sum of US \$ 15,000 every year as its contribution to the Special Voluntary Fund of UNDP.

The year 2001 has been declared as International Year of Volunteers by the United Nations.

28 India and the World

SEVERAL initiatives which India had undertaken in the field of economic liberalization and promotion of trade, culture and peace during the year 2000-2001 bore fruit. India consolidated its position as global power, bulwark of peace, stability, international understanding, security and balance not only in Asia but on a much wider scale in the world safeguarding its territorial integrity and sovereignty. India tried to foster good relations with its neighbouring countries and the major powers. India contributed to peace keeping efforts of the UN, promoting the cause of democracy and civilizational tolerance.

INDIA'S NEIGHBOURS

India voiced its concern over the continuing internal conflict in Afghanistan, which affects India's national security interests. The Taliban-controlled part of Afghanistan remained a major source of narco-terrorism, posing a serious threat to the peace and stability of the whole region. India discussed the Afghan situation with major world powers like USA, Russia and European Union (EU). India provided humanitarian aid of medicines worth Rs 33.5 lakh to war-ravaged Afghanistan.

India continued its endeavours to expand its multi-faceted bilateral ties with Iran. The Minister of External Affairs (EAM) led the Indian delegation to Iran for the 11th meeting of Indo-Iran Joint Commission, where he discussed all bilateral regional and international issues including Afghanistan. India identified the energy sector for cooperation between India and Iran especially feasibility of transmission of Iranian gas to India. The President of Iran invited the Indian President and Prime Minister to visit Iran.

India remained committed to establishing a relationship of peace, friendship and co-operation with Pakistan. India called on Pakistan to abandon its compulsive hostility, anti-India propaganda and cross border terrorism to undermine India's interests and denigrate its reputation. Functional level contacts between the Governments of India and Pakistan and people to people contacts between the two countries, have continued. The Samjhauta Express and the Delhi-Lahore Bus service have continued uninterrupted. Fishermen who inadvertently stray into each others territorial waters were released. Exchanges between academics, retired government officials, journalists and visits by religious pilgrims continued to take place. The International community also took notice of Pak-sponsored international terrorism.

In December 2000, Pakistan announced a policy of "maximum restraint" along the Indo-Pakistan Border by reducing unprovoked firing and claiming to withdraw some of its troops, but continues to support cross-border infiltration and terrorist operations in India. Pakistan filed a case against India in the International Court of Justice for downing of its plane Atlantique by

Indian Airforce for violating Indian Air Space. In an effort towards peace between the two countries, the Indian Prime Minister invited the Pakistan President Pervez Musharraf to India. The Summit talks between the two leaders were held at Agra on 15 July 2001.

There was high-level interaction in areas including water resources, trade and defence with Bangladesh. The Minister of Water Resources visited Bangladesh for the 34th Joint Rivers Commission (JRC) meeting on 12-13 January 2001 in Dhaka. The JRC reviewed India-Bangladesh cooperation in the field of water resources. The Minister of State for Water Resources, paid a goodwill visit to Bangladesh from 25-29 September 2000. The Bangladesh Parliamentary Standing Committee on water resources paid a good will and familiarization visit to India from 1-15 November 2000. The delegation visited projects of interest and interacted with officials, *inter alia* from the State governments of West Bengal and Maharashtra. When Bangladesh faced severe floods in September-October 2000 in the southern region, Government of India contributed Rs five crore to the Bangladesh Prime Minister's relief fund. Foreign Secretary of Bangladesh visited New Delhi from 6-8 August 2000 and again from 13-14 December 2000 for foreign office consultations. The discussions covered communication links between the two countries, Bus service between Kolkata-Dhaka, trade and economic cooperation, cooperation in water resources, science and technology, the liberalisation of visa arrangements, cultural exchanges, tackling terrorist activities, demarcation of land boundaries between India and Bangladesh. Co-operation for Rail link between the two countries continued. Discussions were held between BSF and the Bangladesh Rifles (BDR) in April 2000 for border management. Interaction between the Chiefs of the Indian Army and the Bangladesh Army took place in May 2000. Active cooperation in the areas of education and technical training continued between India and Bangladesh. Indian High Commission and Consulates in Bangladesh issued 3,63,204 visas to Bangladeshi nationals in 2000.

India consistently reiterated its commitment to the unity, sovereignty and territorial integrity of Sri Lanka. The President of Sri Lanka visited India from 22-25 February 2001 and held discussions on bilateral, regional and international issues. On 11-12 June 2000, Minister of External Affairs visited Sri Lanka for an exchange of views with the Sri Lankan President and the Foreign Minister on the evolving situation in Sri Lanka. EAM conveyed India's willingness to extend to Sri Lanka a line of credit of US\$ 100 million on mutually acceptable terms. An agreement for the transfer of US\$ 45 million was signed in January 2001.

The close, friendly and problem-free relations between India and Maldives were given added warmth with exchanges of high-level visits, including the state visit of President Maumoon Abdul Gayoom of Maldives in August 2000. The Foreign Minister of Maldives had attended the fourth session of the India-Maldives Joint Commission in New Delhi. *Raksha Mantri* visited Maldives from 9-12 January 2001. There was productive interaction and Joint-Exercises between the two Coast-Guards. Parliamentary and educational exchanges also remained active.

Constructive engagement with Myanmar focussed on broad basing the areas of cooperation and restoring the tradition of high level bilateral exchanges between the two countries. General Maung Aye, Vice-Chairman of the State-Peace and Development Council led a high-level delegation to India in November 2000, and had wide ranging discussions including regional cooperation within the framework of BIMST-EC and the India-ASEAN Dialogue partnership. The two sides agreed to take steps to ensure peace and tranquility along the India-Myanmar border. Minister of External Affairs visited Myanmar in February 2001 and inaugurated the Tamu-Kalemyo-Kalewa Highway. He also held talks with the Myanmar leaders on all areas of mutual interest. The first meeting of the India-Myanmar Joint Working Group on Science and Technology was held in April 2000 in Yangon. Myanmar Culture Minister visited India in January-February 2000 and signed the India-Myanmar Cultural Agreement.

Indo-Nepali relations were close and friendly with extensive social and people-to-people contacts. The Prime Minister of Nepal, Shri Girija Prasad Koirala was on a good-will visit to India from 31 July to 6 August 2000. Several agreements were worked out to ensure better cooperation, with focus on better border management and the development of border districts. Cooperation in the area of security was sought to be enhanced through the Home Secretary level talks in July 2000. There was an understanding that neither country would permit its territory to be used for activities prejudicial to the other. A joint committee on water resources was constituted. India continued to be involved in several development projects in Nepal.

Relations between India and Bhutan are characterised by mutual trust, understanding and close friendship. Economic cooperation between the two countries has been steadily growing. India has been extending financial assistance to Bhutan by supporting its five year plans since 1961—the level of assistance for the Eighth Five Year Plan was approved at Rs 900 crore. The projects proposed to be financed by Indian assistance cover diverse areas in the fields of hydro-electricity generation and transmission, roads, bridges and social infrastructure. During the Bhutanese Foreign Minister's visit to India in April 2000 relations on all fronts were reviewed. The two Governments voiced serious concern on the issue of ULFA-Bodo militants in southern Bhutan.

SAARC

The sixth meeting of the Governing Board of the South Asian Development Fund (SADF) was held in Maldives on 22-23 May 2000 in which the activities of the Fund were reviewed and proposals for placing the Fund on a professional footing discussed. SAARC consortium examined proposals for cooperation in the SAARC region to promote the use of open and distance learning at all levels of education. The growing people-to-people contact of all kinds was a notable development during the year. The third meeting of the SAARC Network of Researchers on Global, Financial and Economic issues was held at the SAARC Secretariat on 31 October 2000. The 19th meeting of

the SAARC Audio Visual Exchange Committee was held in Dhaka from 19-20 December 2000. A special SAARC Senior Officials' Meeting was held in Colombo from 13-15 November 2000. The meeting finalised the calendar for holding the meetings of technical committees, expert-level meetings of the South Asian Preferential Trading Arrangement (SAPTA) and the South Asian Free Trade Area (SAFTA). The SAARC Technical Committees are the primary mechanism for the implementation of the SAARC integrated programme of action (SIPA). 'A regional meeting on Financing Renewable Energy for sustainable Development and Alleviation of Rural Poverty in South Asia' was held in Colombo from 12-14 June 2000, jointly with the World Energy Council. A South Asian Business Leaders summit was held in Bangalore from 18-19 August 2000 as a Joint initiative of the federation of Karnataka Chamber of Commerce and Industry, the Federation of Indian Chamber of Commerce and Industry (FICCI) and the SAARC Chamber of Commerce and Industry. The SAARC Law Conference, a recognised regional apex SAARC body, held its 8th Annual Conference in Nepal from 22-24 September 2000. As part of its effort to improve the health sector in the South Asian Region, SAARC signed a Memorandum of Understanding with the WHO on 23 August 2000.

SOUTH EAST ASIA AND THE PACIFIC

After a short spell in the wake of Pokhran II, there has been a renewal of friendly relations with Australia and New Zealand. The visit of the Australian PM in July 2000 was an eloquent assertion that the two countries are keen to weave a more intricate tapestry of interaction. Defence ties were also resumed. New Zealand and India saw a strengthening of economic relations with trade growing in both directions. As dominant countries of the region, Australia and New Zealand were important interlocutors for India during the hostage crisis in Fiji.

India appreciated the support of Cambodia for India's claim for a permanent membership of the United Nations Security Council (UNSC). The cooperation has gained further substance after the Mekong-Ganga programme deliberations in Vientiane in November 2000.

The year saw a civilian coup in Fiji. As the rebels held several dignitaries (including Prime Minister Choudhary) captive, India was deeply concerned about the safety of the hostages and the large Indian community in Fiji. It continues to be worried by the racial politics in Fiji and supports the return to the non-discriminatory 1997 constitution, hoping to see the early establishment of pluralistic and multiracial norms where the Indian community shall enjoy its legitimate rights.

The cordial ties between India and Laos were further cemented in November 2000 when the External Affairs Minister visited Laos for the inaugural Ministerial meeting of the Mekong-Ganga cooperation. The third Indo-Laos Joint Commission Meeting was also held during the visit in which important agreements were signed in the areas of trade, investment and agricultural cooperation.

Indian ties with Vietnam were given a further impetus by the visit of the Indian Prime Minister in January 2001. A joint Business Council Meeting was held in Hanoi during this visit and agreements were signed in the areas of Tourism and Nuclear Energy. Vietnam also extended support to India's candidature for permanent membership of the UNSC. Earlier, in November 2000, the Minister for External Affairs had visited Vietnam for the 10th session of the Joint Commission for Economic, Scientific and Technical Cooperation.

Bilateral relations with Indonesia were further strengthened this year with the visit of the Indian Prime Minister in January 2001. There was a Joint Business Council Meeting in Jakarta and important agreements in the areas of defence, science and technology, agriculture and culture were signed. The Prime Minister reiterated India's support for the territorial integrity of Indonesia while the Indonesian side voiced support for India's candidature for the UNSC.

There was fruitful exchange with Malaysia over the year with the convening of the second session of the Indo-Malaysian Joint commission in October 2000. The session comprehensively examined the avenues for further strengthening of relations, resulting in agreements on Trade and Cultural exchange. From July 2000, Malaysia is also the country coordinator for India's interaction with the ASEAN.

Relations remained cordial with Thailand. Economic, Commercial and Cultural links were strengthened through the exchange of high level visits. India's membership in the BIMST-EC has given a further impetus to this cooperation and the launching of the Mekong-Ganga initiative has added to it. The year saw a handsome growth in bilateral trade.

There were a series of important visits to and from Singapore during the year. The External Affairs Minister visited Singapore in June 2000 and the President of India Shri K.R.Narayanan paid a State visit in November 2000. Commercial interaction increased with the signing of MoUs in information technology and the economic field.

Relations remained similarly cordial and cooperative with the other countries of South-East Asia. With the Pacific Island Countries, India's engagement was low in quantitative terms but excellent qualitatively.

EAST ASIA

As India and China celebrated a half-century since the establishment of diplomatic relations, there was an implicit mutual recognition of the important role the two countries have to play in the next century. For achieving this, both India and China showed willingness to enhance a feeling of mutual trust and confidence. They agreed that the Joint Working Group and the Expert Group form an effective institutional mechanism for ironing out the differences on the boundary issue. They also stressed the common interest they have in fostering stability in Asia as a whole and recognised that bilateral talks are the best instrument to resolve all outstanding disputes between the nations.

After a gap of eight years, there was a visit by the Indian President to China in May-June 2000. Besides the commitment to enhance official-level cooperation, the two sides formed an eminent persons' group. From the Chinese side, there was first the visit of the Foreign Minister in July 2000. This led to an agreement to expedite the process of clarification of the boundary. At the beginning of the new year, Chairman Li Peng of the standing committee of the National Peoples Congress visited India. He stressed that China did not see India as a threat and desired good neighbourly relations between the two countries. The Joint Working Group on the boundary question met for the twelfth time and the two sides agreed on a mutual exchange of maps. Besides the border issue, the two countries also talked on the entire spectrum of issues of mutual concern. There were a series of important ministerial-level visits and a resumption of exchanges between the two armed forces. Indo-Chinese trade also recorded a healthy growth.

Traditional cultural links and strong economic ties make Indo-Japan relations robust and abiding. These natural affinities were further augmented when the Prime Minister of Japan visited India in August 2000. Several important initiatives were agreed upon to enrich the bilateral relationship and to tap the potential of this partnership in the new areas of Information Technology. There were important ministerial visits from the Indian side too, including the visit of Defence Minister in June 2000, which allowed a productive discussion on a bilateral security dialogue. Economically, trade flows remained buoyant and had amounted to about 1,987 million dollars in the first half of the financial year itself.

India and Mongolia celebrated 45 years of cordial and multifaceted diplomatic relations with the state visit of the Mongolian President in January 2001. Mongolia voiced its support for India's claim for a permanent membership of the UN Security Council. It further echoed India's call for a multilateral effort against state-sponsored and cross-border terrorism.

The economic interaction with the Republic of Korea (RoK) has been on the upswing ever since the liberalisation drive in India. This was strengthened with the visit of the RoK Foreign Affairs and Trade Minister in July-August 2000. India extended its support to the reconciliation process currently underway in the Korean peninsula. In November 2000 an MoU was signed between the two countries for cooperation in the area of Information Technology. Relations with the Democratic People's Republic of Korea (DPRK) also remained friendly. The visit of the DPRK vice Foreign Minister enabled consultations between the foreign offices. There was also significant interaction on the cultural front, with a number of artistic performances and film festivals being organised.

CENTRAL ASIA

The Central Asian Region and India have always had civilizational links, with economic, commercial and cultural links going back to centuries. With the emergence of Central Asian Countries as independent nations, the discovery of fossil fuel reserves in them and the emergence of international and

cross-border terrorism as problems common to India and them, it has become all the more necessary for India to engage them. On its part India is in a position to provide useful technical expertise to aid the development effort of these nations. All this has resulted in a concerted effort to renew past connections and strengthen relations on all fronts during the year.

The new mission in Baku has given India a functional presence in Azerbaijan and has been actively pursuing Indian interests and disseminating information. Relations with Kazakhstan have been cordial and gained in substance with the active Indian participation in the Kazakh-initiated Conference On Interaction and Confidence Building Measures In Asia. Economic cooperation also shows an upward trend. Contacts with Kyrgyzstan were maintained in all areas—political, commercial and cultural. India shares several regional security concerns with Tazikistan, which benefited from extensive consultations between the two foreign offices. Similar concerns were shared with Turkmenistan when the Turkmen Foreign Minister visited India in April 2000. There was also a commitment to strengthen economic ties. The 500th birth anniversary of Bairam Khan, a memorable medieval figure, provided the two countries an opportunity to look back upon a common historical and cultural heritage.

During the year, relations with Turkey were active with a series of high-level visits that gave greater content to the bilateral ties. This was reflected in the highly successful state visit of the Prime Minister of Turkey in March-April 2000. Significant agreements leading to cooperation in the political, agricultural and cultural fields were signed. Economic cooperation is also seen as an area of promise, especially in infrastructure development.

The visit of the Uzbek President to India in May 2000 provided an opportunity to review common concerns on the issue of international terrorism and the rise of religious intolerance in the world. A number of agreements were signed.

THE GULF, WEST ASIA AND NORTH AFRICA

India remained abreast of the developments in West Asia and North Africa. The Gulf countries of the region house a large number of Indian expatriate workers and are the principal source of India's energy supplies. India also continued to monitor the protracted and tortuous progress of the Middle East Peace Process.

The 14th session of the India-Iraq Joint Commission took place in Delhi in November 2000 and was followed by the visit of the Iraqi Vice-President. There were important meetings with the representatives of the Ministry of Petroleum and Natural Gas, and India increased the ITEC slots for Iraq.

Relations with Kuwait retained their traditional warmth with a visit by the Union Minister for Human Resource Development and goodwill visits by two Indian Naval Ships to Kuwait. The Minister of State for External Affairs also visited Kuwait in July 2000 and held meetings with important dignitaries.

The third session of the India-Oman Joint Commission was held in April 2000. Oman's Minister responsible for Foreign Affairs visited India in July 2000. An Indo-Oman strategic consultative group was planned and there were productive discussions on the IOR-ARC initiative. The traditionally friendly relations between India and Bahrain were strengthened and diversified over the year. Bahrain's Minister of Transportation visited India in April 2000.

India and Qatar continued a productive relationship with useful collaboration in the area of natural gas trading. This was facilitated by the visit of the Minister of Energy, Industry, Electricity and Water of Qatar in October 2000.

Cordiality also marked relations with Yemen with the renewing of the Joint-Business Council Agreement in May 2000.

India's important relationship with Saudi Arabia was further enriched this year. The Minister of Petroleum and Natural Gas visited Saudi Arabia in November 2000 to attend the International Energy Forum. There was a productive trade fair featuring Indian goods held in September 2000. The 1.5 million-strong Indian workforce continues to be the largest expatriate community in Saudi Arabia and underlined the importance of close relations between the two countries. Over a lakh pilgrims also made the *Haj* journey from India, which necessitated extensive preparatory logistical coordination between the two countries. In January 2001, the External Affairs Minister paid the first-ever visit at this level to Saudi Arabia.

There were many important visits between India and the United Arab Emirates, which helped to cement traditionally close ties. April 2000 saw the visit of the UAE Minister of Information and Culture while the Chairman of Emirates Airlines was in India in September 2000. The instruments of Ratification of the treaty on extradition and mutual legal assistance were exchanged in May 2000. The Indian Minister for Commerce and Industry presided over a meeting of Commercial Representatives, at Dubai in June 2000. A Confederation of Indian Industry (CII) delegation that visited UAE in May 2000 gave further boost to the significant economic partnership.

Traditional relations with Egypt progressed well over the year. The G-15 Summit was held in Cairo in June 2000 and was attended by the Vice-President of India. The Minister of State for Commerce and Industry inaugurated the INDIA TECH exhibition in September 2000.

The Foreign Minister of Jordan visited India in December 2000. The consultations covered all areas of bilateral cooperation as well as the situation in the Middle East. Economic cooperation also grew, especially in the area of textiles, with a successful exhibition in October 2000.

India's traditional support for the territorial integrity of Lebanon provided a firm basis for continued friendship and trust between the two countries.

India maintained cordial relations with Libya, with emphasis on economic interaction. The July 2000 visit of the Foreign Minister of Libya provided an opportunity to reiterate this sense of friendship.

India continued to extend political, moral and material support to Palestine. India conveyed its concern at the stalling of the Middle East Peace Process and maintained that a just, lasting and comprehensive peace in the region can only be established on the basis of UNSC resolution 242 and 338. President Yasser Arafat visited Delhi in August 2000. There were several important visits from the Indian side too, including those of the Home Minister and the Minister for External Affairs.

Over the year bilateral ties of friendship, mutual understanding and cooperation with Israel were strengthened. The visit of the Home Minister in June 2000 led to a working group on counter-terrorism. Later, the External Affairs Minister also visited Israel and put the bilateral dialogue on a firm footing by agreeing on a Ministerial Level Joint Commission. Israel's Minister for regional cooperation made two trips to India during the course of the year to foster closer economic ties and to keep India informed about the Middle East Peace Process. Bilateral cooperation with Sudan was given a fillip by the visit of the Minister of State for External Affairs in April 2000. He co-chaired the second meeting of the Indo-Sudan Joint Commission, which led to agreements in a wide variety of areas.

India mourned with Syria the loss of late President Hafez al Assad this year. The Minister of Human Resource Development and Science and Technology represented India at the funeral. Among other important visits, a high-level delegation visited New Delhi in July 2000 for the fourth session of the Joint Trade Committee.

Minister of State for External Affairs was in Tunis to co-chair the first meeting of the Indo-Tunisian Joint Commission in April 2000. The Foreign Minister of Tunisia visited India in December 2000 and had a series of useful talks.

Relations were similarly cordial and forward-looking with Morocco, with cooperation increasing in a variety of areas, to the mutual benefit of both countries.

In June 2000, the Indo-Algeria Joint Commission met in Algeria. Later, the October 2000 visit of the External Affairs Minister helped draw the two countries closer. As a culmination of this process, the President of Algeria visited India in January 2001 and was the chief guest at the Republic Day Parade.

AFRICA (SOUTH OF SAHARA)

A changing Africa has provided new areas for cooperation and interaction for the mutual benefit of both India and Africa. This allowed a progressive strengthening of relations in the year. There were important visits by the Foreign Minister of Benin, a large business delegation from Botswana and Parliamentary delegations from Cameroon, Madagascar and Kenya. The war

between Eritrea and Ethiopia did not prevent India from drawing closer to both the countries or providing them assistance in their fight against a terrible drought. Assistance was also extended to Mozambique when it faced the fury of flood waters and cyclone. The first non-socialist government of Senegal showed its keenness to strengthen commercial relations with India. Cooperation also increased with Seychelles after the 5th Joint Commission Meeting in October 2000. In the educational field, the visit of the Seychelles Minister for Education gave a fillip to collaboration. Relations also remained cordial with Tanzania, Uganda and Zambia.

With Mauritius, relations continued on an upswing, on the defence, economic and education fronts. This special friendship has endured after the new coalition government headed by Sir Anerood Jagannath took office. The Foreign Minister of Mauritius visited India in January 2001 and Prime Minister Sir Anerood Jugnauth paid a visit later in the same month.

Already India's largest trading partner in Africa, Nigeria signed a further agreement on the Petroleum sector with India. In a gratifying acknowledgement of India's democratic institutions, Nigeria decided to train 360 members of its National Assembly in the Lok Sabha Secretariat. The Minister of State for Commerce and Industry, visited Nigeria in October 2000.

In Sierra Leone, India participated in the multi-nation force that sought to control the spiralling violence. The year saw some tension as some Indian soldiers were first captured by the rebels and then brilliantly rescued. From September 2000, India started withdrawing its forces from this operation in a phased manner.

South Africa remains one of the most important countries in the region from the Indian perspective. The past year saw trade continue to grow at a healthy pace and defence cooperation was stimulated by the visit of the Defence Minister in September 2000.

EUROPE

India continued to have cordial and mutually beneficial relations with the European continent. With the easing of cold war tensions and the adoption of similar politico-economic regimes in both Eastern and Western Europe, there is today a wide appreciation of the liberal democratic norms of the Indian nation. This is further tinged with respect to India's economic potential as a likely powerhouse of the new century. Most European nations share India's perspective on the dangers posed by international terrorism and realise the validity of India's claim for permanent membership of the United Nations Security Council.

This mood was in evidence in the first ever India-EU Summit in June 2000, which was attended by an Indian delegation headed by the Prime Minister. India and the EU aimed to build a 'Strategic Partnership' with active cooperation in the political, economic and commercial fields. India continued to monitor with interest the proposed expansion plans of the European Union

India and the World

and the suggested changes in its working to include common foreign and security policy issues.

The EC External Relations Commissioner paid an official visit to India in January 2001. A forum of non-official eminent personalities, the India-EU Round Table, was launched. A Joint Working Group on Terrorism has also been agreed on. India also continued to participate actively in all the forums under the Commonwealth umbrella, with the External Affairs Minister leading the Indian delegation to the Summit meeting of the Commonwealth High Level Group in September 2000 at New York. Earlier in April the Commonwealth Secretary General visited India.

The close relationship between India and France was celebrated in April 2000 by the State Visit of the Indian President. The two countries reiterated the vitality of a 'strategic partnership' and put into effect important agreements on promoting bilateral investment. Economic ties were further strengthened by the visit of the Commerce and Industry Minister for the Session of the Indo-French Joint Committee on economic cooperation. Joint working groups were planned to concentrate on the high potential sectors.

The Home Minister also visited France to explore the modalities of closer interaction on battling terrorism. Defence and security cooperation continued under the aegis of the Joint High Committee on Defence Cooperation and through the bilateral strategic dialogue, the sixth round of which was held in January-February 2001, carried further with the visit of French Defence Minister in May 2000.

India's history binds it to a warm and advantageous partnership with the United Kingdom (UK). The time-honoured friendship benefits from a functional institutional structure for cooperation on all fronts. UK was sympathetic to India's claim for a permanent place on an expanded UNSC. The firm intent of both countries to increase bilateral trade led to a one-third rise in the commercial traffic in the first half of year 2000. Over the past year, India and UK have recognised international terrorism, drug and arms trading and the rise of religious intolerance as issues of mutual concern that require close coordination at the political and official levels.

The first meeting of the Joint Working Group on Terrorism and Drug Trafficking was held in January 2001. There was an important visit by UK's Foreign Secretary in April 2000. India and UK stressed the importance of this partnership to both countries and inaugurated India-UK Round Table as a constructive forum for cooperation. The External Affairs Minister visited the UK in May and November 2000. Other important bilateral visits were by the British Secretary of State for Defence in December 2000 and the British Secretary of State for Trade and Industry in January 2001. Parliamentary and Non-Governmental exchanges were also actively pursued.

Germany remains an important economic partner for India and given its importance in the European Community, India considers it a key interlocutor on several global issues. The year saw the resumption of German development

assistance as well as the establishment of a strategic dialogue process. The gamut of bilateral relations was reviewed when the Deputy-Chancellor and Foreign Minister of Germany visited India in May 2000 and again in September. This led to the adoption of a forward-looking 'vision statement' between the two countries. Early in 2001, the External Affairs Minister visited Berlin to inaugurate the New Indian Embassy premises. Economic relations remained important and saw further boost with the Finance Minister's visit to Germany in April 2000. In the past year Germany also expressed its willingness to tap the vast skilled manpower pool India enjoys in the area of Information Technology.

Prime Minister visited Italy in June 2000 and the resultant dialogue has led to closer cooperation in all areas especially on combating international terrorism and promoting tourism. Among other important exchanges was the visit of the Italian Foreign Minister to India in November 2000.

There was a similar forward movement in relations with the other Western European countries with a widely shared sense of concern at the scourge of terrorism and an appreciation of the potential advantages of closer ties with the emergent Indian economy, especially in the area of Information Technology.

With the countries of Eastern Europe, India has enjoyed close and friendly relations for many years. There has been fairly active interaction in the area of culture, science & technology and economy. As the successor state to the Soviet Union, Russia continues to have a special place in Indian Foreign Policy. The year was marked by the State visit of the newly elected Russian President in October 2000. During the visit, agreements covering all possible areas of bilateral cooperation were signed. The two countries envisioned a productive 'strategic partnership' for the next century. Russia extended support for the Indian position on resolving the Kashmir dispute through bilateral talks, and also agreed that India was an obvious contender for a permanent place in the UNSC. Besides the Presidential visit there were a number of opportunities for interaction at the highest level including the External Affairs Minister's trip in June 2000.

Relations moved visibly forward with the other East European countries. There were a series of cordial exchanges and the Foreign Minister of Armenia, the Defence Minister of Bulgaria, the Deputy Prime Minister of Croatia, the Foreign Minister of Georgia, the Deputy Prime Minister of Poland and the Defence Minister of Romania were some of the important dignitaries to visit India from this region during the year. The countries were virtually unanimous in their support to Indian positions on terrorism, on the reform of the United Nations and on the importance of democracy.

THE AMERICAS

Among the more important trends noticed over the year was the marked

enhancement in India's engagement with the United States of America. The year was something of a watershed in Indo-US relations as these two 'natural partners' stepped into an entirely new phase of broad and multifaceted interaction. The underlying identity of values in the two countries—democracy and individual freedom—served to unite them towards a common world vision. Of late, the growing economic interaction between India and the US has also become a major driving force towards mutually beneficial strengthening of relations. The most visible signal of this growing economic interdependence is the vital role being played by the highly successful Indian community in the US.

The two sides celebrated this growing intimacy in the grandest manner possible by an exchange of State Visits in the same year. The March 2000 visit of the US President led to the drawing up of a 'vision statement' which outlined the commonalities in the way both countries look towards the new century. An institutional mechanism for regular exchange of views on all matters of interest has also evolved. This involves periodic dialogue at the 'summit' level as well as at other political and official levels. The proposed dialogue would cover the entire spectrum of issues of mutual concern, including UN peacekeeping and the situation in Afghanistan.

In September 2000, the Prime Minister visited the US and became the only foreign leader to address the Joint sitting of the 106th Congress. The visit provided a further catalyst to the process of progressive engagement.

Both countries recognise that the forces of democracy have come to hold central stage in the entire world today and as established and vibrant democracies, both India and the US wish to stand behind these forces. They also agree on the dangers posed to civil society as a whole, and to democracy in particular, by the emergence of global and state-sponsored terrorism. India and the US also stressed the importance of strategic stability in Asia and recognised that this can be best ensured through the efforts of the relevant states themselves.

With Canada, there was productive interaction on the front of terrorism. The Joint Working Group on terrorism had met in February 2000, which allowed an interchange of information on terrorist groups. The Indian Minister of Petroleum and Natural Gas led a delegation for the 16th World Petroleum Congress held at Calgary, Canada in June 2000.

LATIN AMERICA AND THE CARIBBEANS

India has always had the best of relations with the Latin American and Caribbean countries. On a variety of issues confronting the world, India and the countries of this region find themselves on one side—besides the close interaction in the portals of the Non-Aligned Movement. There is also considerable respect and knowledge about Indian culture in the area. There is a realisation that the economic potential of the relationship has never been fully exploited, leading to a series of attempts to correct this. There was a step up in the participation of export promotion councils, and business houses

in trade exhibitions in Latin America. This has allowed a better appreciation of each other's economic strengths and comparative advantages and is expected to lead to a burgeoning of trade flows over the near future. India is making a concerted effort to fashion a working institutional relationship with MERCOSUR as part of this pursuit. There were a number of important bilateral visits in the course of the year including the visit of the Minister of State for External Affairs to Argentina and Trinidad & Tobago in August 2000. The Minister of State for Commerce and Industry also made a valuable trip to the region, helping to set up the framework for a productive economic interaction. New ground was broken with some countries in the region as first-ever foreign office-level consultations began with Peru and Uruguay.

Earlier in the year, the External Affairs Minister visited Cartagena, Colombia for the Ministerial Conference of the NAM Foreign Ministers in April 2000. In the same month, the Minister for Human Resource Development led the Indian Delegation for the G-77 Seventh Summit in Havana.

UNITED NATIONS AND INTERNATIONAL ORGANISATIONS

SESSIONS OF THE GENERAL ASSEMBLY MILLENNIUM SUMMIT/ ASSEMBLY

The Millennium Summit, a large gathering of 150 Heads of States or Governments, was held in New York between 6-8 September 2000. The main issues before the Summit were need for reform and restructuring of the UN Security Council and expansion of representation of permanent and non-permanent members of the Security Council. India was represented by Prime Minister Shri Atal Bihari Vajpayee who called for global action against international terrorism and suppression of terrorist financing and reiterated India's claim to permanent membership of an expanded Security Council. The declaration adopted by the Summit reflects India's interests because it refers to principles of sovereignty, non-interference and value of tolerance. It recognises the need for a comprehensive reform of Security Council. It calls for an international conference to identify ways of eliminating nuclear dangers and seeks to eliminate the dangers of weapons of mass destruction. It articulates the resolve of the international community to take concerted action against international terrorism and to accede to relevant international conventions.

The External Affairs Minister led a high-level Indian delegation to the 55th regular session of the UN General Assembly from 18-20 September 2000 urging for nuclear free world and to confront challenges of terrorism arising from drugs and illicit arms trafficking particularly when combined with "religious fanaticism and military adventurism". He reaffirmed India's willingness to take on the responsibilities of permanent membership. India co-sponsored and associated itself with annual General Assembly resolution on the "situation in Afghanistan and its implications for peace and security". The resolution *inter alia* reiterated the central role of the UN in finding a solution to the Afghan problem, called on the Taliban to cease all armed hostilities, refrain from providing safe haven to international terrorists and

their organisations, cease the recruitment of terrorists, close terrorists training camps and take effective measures to ensure that their territory is not used to sponsor international terrorists operations.

UNGA EMERGENCY SPECIAL SESSION

The 10th emergency special session of the UN General Assembly was convened on 18 and 19 October 2000 at the request of the League of Arab States. The Indian statement called for exercise of restraint, avoidance of provocation, need to shun the use of force and stressed the need for dialogue and peaceful negotiations to find a just, comprehensive and lasting settlement of all issues between the two sides. In keeping with our tradition of solidarity and support for the Palestinian cause, we associated ourselves with the NAM statement. The Session adopted a resolution on "illegal Israeli actions in occupied Jerusalem and rest of the occupied Palestinian territory" by a vote of 92 for, six against and 46 abstentions. The Summit supported the understanding reached at Sharm-EL-Sheikh on a committee of fact-finding and called for its establishment immediately.

AFGHANISTAN

In view of our deep and abiding concern over developments in Afghanistan, India worked closely with countries such as Russia, EU, US, etc., and co-sponsored the resolution in Security Council to further extend sanctions against the Taliban. The resolution co-sponsored by 80 countries called on the Taliban to stop all support to terrorism and to close all terrorist training camps.

Francesc Vendrell, personal Representative of the UNSC on Afghanistan and Head of UN special Mission on Afghanistan visited India from 2-5 May 2000. The visit assumed significance since it took place soon after he assumed the assignment and reflected recognition of India's role and interest in Afghanistan.

SECURITY COUNCIL RESTRUCTURING AND REFORM

The debate on Security Council restructuring and reform received some fillip in April 2000, when the USA indicated its readiness to consider an expanded Security Council of more than 21 members, thereby removing what had earlier been a major road block. The "Question of Equitable Representation on and increase in the Membership of the Security Council and related matters" was further debated in the UNGA plenary on 16-17 November 2000. 108 countries spoke in the debate.

INDIA'S CASE FOR A PERMANENT SEAT IN THE SECURITY COUNCIL

There was enhanced momentum in support of India's candidature for permanent membership of the UN Security Council. Among the P-5 (permanent 5 members of the Security Council), several made positive indications and/or supported Indian candidature for a permanent seat in the Security Council. During the visit of President Shri K.R. Narayanan to France in April 2000, the French President Jacques Chirac on 17 April 2000 stated that India is

destined to become a permanent member of the United Nations Security Council. During the debate in the UNGA plenary on 16 November 2000, the Russian representative stated, "The Russian Federation considers India a strong and worthy candidate for a permanent membership seat in the Security Council should it be decided to enlarge the Council in both categories." The UK and the US have given positive indications acknowledging India as a natural contender. On 7 October 2000, a senior official of the US Administration stated "there is no question that India is a very strong contender for permanent membership of the Security Council. Its size, role in the world, its economy, its contribution to UN peacekeeping, all these make it a very serious and strong contender". Robin Cook British Secretary of State for Foreign and Commonwealth Affairs, on his visit to India from 15-18 April 2000, indicated that UK sees "India as a natural contender for permanent membership of the UN Security Council".

During the Millennium Summit and Millennium Assembly, Cambodia, Vietnam and Bhutan, reiterated their support for India's candidature. There were also, indications of support from several other countries during bilateral discussions.

PEACE-KEEPING

During the year, India emerged as the largest troop contributor to UN peace-keeping operation. The bulk of Indian troops (over 3,000), were deployed in the UN Mission in Sierra Leone (UNAMSIL). Other Indian contributions were a battalion in the United Nations Interim Force in Lebanon (UNIFIL), military observers in the UN Mission in the Democratic Republic of Congo (MONUC), UNGCI (Iraq), the UN Mission in Ethiopia and Eritrea (UNMEE), Iraq-Kuwait Observation Mission (UNIKOM) and police officers in the UN missions in Bosnia & Herzegovina (UNMIBH), Kosovo (UNMIK), Western Sahara (MINURSO) and Sierra Leone (UNAMSIL).

TERRORISM

At the 55th UNGA, the Working Group of the Sixth Committee in pursuance of a decision taken at the 54th UNGA, held its first round of detailed discussions on the Draft Comprehensive Convention on International Terrorism at the UN from 25 September to 6 October 2000.

The progress so far reflected the seriousness with which the international community approached the issue. The considerable support received from a wide range of countries, including G-8, European Union, as also Asian, African and Latin American countries, on several of the issues of concern to India was a matter of satisfaction. These included the need for the convention to address the question of state responsibility to refrain from acts of terrorism and to ensure that their respective territories are not used for terrorist installations and training camps, along with a responsibility of states to either prosecute or extradite.

Discussions on the Draft Convention will resume early next year. India

will continue to work actively for the early adoption of this comprehensive convention on terrorism.

DISCUSSIONS IN UN SECURITY COUNCIL

On 7 December 2000 the UN Security Council discussed the issue of international terrorism and international cooperation under agenda item "Role of the Security Council in Maintenance of International Security". This discussion was a follow-up to resolution 1,269 adopted by the Council on 19 October 1999, when the Security Council, addressed the general issue of international terrorism as a threat to international peace and security.

The Security Council adopted a Presidential Statement, which, *inter alia*, expressed deep concern at the increase in acts of terrorism in many regions of the world called for universal accession to existing anti-terrorism conventions and reiterated the Security Council's readiness to take necessary steps in accordance with its responsibility under the UN Charter to counter terrorist threats to international peace and security.

DISARMAMENT AND INTERNATIONAL SECURITY

India's commitment to non-discriminatory and universal nuclear disarmament continued to be reflected in its policy pronouncements and diplomatic initiatives. The country's stand on issues related to disarmament and international security in various multilateral and regional forums was premised on India's national security interests and the nation's tradition of close engagement with the international community.

The series of bilateral dialogues commenced after May 1998 continued to be pursued this year. New security dialogues were also initiated with China, Germany and UK. Harmonisation of India's national imperatives and security obligations with international concerns on non-proliferation and disarmament also progressed steadily.

On the regional level, India's participation in the confidence and security building process and structures under the ASEAN Regional Forum acquired greater momentum. Regular contact was maintained with key international and non-governmental organisations active in the field of disarmament to keep them informed about the Indian perspectives on disarmament issues. A new Permanent Mission of India to the Conference on disarmament was established in Geneva on 16 September 2000.

UNITED NATIONS GENERAL ASSEMBLY

India continued to play an active role on disarmament issues in the First Committee of the 55th UN 'Millennium' General Assembly. India is the only nuclear weapon State that believes that its security would be enhanced in a nuclear-weapons-free-world. With this commitment to global nuclear disarmament, it continued to press for negotiations on a Nuclear Weapons Convention that will prohibit forever the development, production, stockpiling,

use or threat of using nuclear weapons, and provide for the elimination of all existing weapons under international verification.

India has clearly and categorically stated its policy of no-first-use of nuclear weapons. India's resolution on 'Convention on the Prohibition of the use of Nuclear Weapons' called for a multilateral agreement prohibiting the use of nuclear weapons, which will also contribute to a positive climate for negotiations leading to the elimination of nuclear weapons. It was adopted with the support of 109 countries.

In 1998, India had introduced its resolution 'Reducing Nuclear Danger', which calls for the review of nuclear doctrines and immediate and urgent steps to reduce the risk of unintentional and accidental use of nuclear weapons. This resolution, for which the co-sponsorship and the support is growing, was adopted this year with 110 countries voting in favour.

CONFERENCE ON DISARMAMENT

The Conference on Disarmament (CD) could not undertake any substantive negotiations during its 2000 annual session in the absence of adoption of its Programme of Work due to lack of consensus on two issues. These were Nuclear Disarmament and Prevention of an Arms Race in Outer Space. The areas on which consensus existed included re-establishment of the Ad-hoc Committees on Fissile Material Cut-Off Treaty (FMCT), Negative Security Assurances (NSAs), re-appointment of Special Coordinators dealing with a ban on transfer of Anti-Personnel Landmines (APLs), Transparency in Armaments (TIAs) and procedural reform issues relating to the CD. India, along with a number of other countries including in the Group of 21, remained actively engaged in the work of the CD and efforts to reach a consensus on its Programme of Work.

UNITED NATIONS DISARMAMENT COMMISSION

The 2000 Substantive Session of the UNDC took place in New York from 26 June-27 July 2000. It addressed two new issues — 'Ways and Means to Achieve Nuclear Disarmament' and 'Practical Confidence-building Measures in the Field of Conventional Arms'. These were discussed in their respective Working Groups in the first year of a three-year cycle of deliberations. These substantive topics were discussed in-depth, including in the NAM Working Group on disarmament.

INTERNATIONAL ATOMIC ENERGY AGENCY

The 44th General Conference (GC) of the International Atomic Energy Agency (IAEA) was held from 18-22 September 2000 in Vienna. The Indian delegation was led by Chairman, Atomic Energy Commission. The Indian delegation worked with like-minded delegations within and outside the Group of 77 to ensure that the recommendations of the GC supported the IAEA activities in the field of nuclear energy. India also endeavoured to maintain a balanced approach in the GC resolution of 'safeguards' for all the Member states of the Agency without discrimination.

CHEMICAL WEAPONS CONVENTION

On 29 April 2000, the Organisation for the Prohibition of Chemical Weapons (OPCW) completed the third year of its existence. As an Original State Party of the CWC, India has been discharging the various obligations assumed by it. It has taken effective measures to meet all the targets and timelines envisaged in the convention. Since the entry into force of this Convention, the Technical Secretariat of the OPCW has conducted more than 700 inspections at chemical weapons storage facilities, former production facilities and industrial plant sites in States Parties to the Convention. More than 40 such inspections have been smoothly conducted in India. India has been playing an active role in deliberations of the Executive Council to oversee the non-discriminatory implementation by State Parties of all obligations assumed under the CWC. As required by the CWC, India completed procedures for national implementation measures with the notification of the Chemical Weapons Convention Act on 28 August 2000, thereby providing statutory powers for the National Authority in implementing the Convention.

The absence of progress in implementing key provisions of the Convention relating to international co-operation continues to be addressed by India, along with other member states, as a matter of concern.

ASEAN REGIONAL FORUM

The ASEAN Regional Forum (ARF) Inter-sessional Support Group meeting on Confidence Building Measures (ISG on CBMs) was held in Singapore from 3-7 April 2000. Officials from the Ministry of External Affairs and the Ministry of Defence participated. The 7th ARF was held in Bangkok on 26-27 July 2000. EAM led India's delegation. The meeting discussed broad issues affecting the security of the Asia Pacific region. DPRK was admitted as a member to the Forum. EAM also participated in a meeting to discuss the Mekong-Ganga Suvanna Phum (*Suvarnabhoomi*) Cooperation Programme. The initiative was enthusiastically endorsed by the participants, viz., Thailand, Vietnam, Laos, Cambodia, Myanmar and India.

NON-ALIGNED MOVEMENT

The Foreign Ministers of the Non-Aligned Movement (NAM) met in Cartagena, Colombia, from 8-9 April 2000. The meeting assumed special significance since it preceded the Millennium Summit and Millennium Assembly of the UN General Assembly. EAM led the high level Indian delegation. The developments at the meeting of significance from the Indian point of view included a strong condemnation of the Taliban. On Terrorism, the communique reiterated support for the Indian proposal for adoption of a Comprehensive Convention on International Terrorism. NAM also maintained its position, first expressed during the NAM Foreign Ministers meeting in New York, in September 1999, categorically rejecting the concept of the right of Humanitarian Intervention. The communique also included a call for restoration of constitutional legality in States whose governments had come to power through unconstitutional means and further recommended that this issue be considered by the Movement at its next Summit.

DEVELOPMENT ISSUES

The UN Millennium Declaration adopted at the conclusion of the Millennium Summit of the Heads of State and Government held in New York from September 6 to 8 recognised that the central challenge is to ensure that globalisation becomes a positive force for all the world's people. The Declaration states that while globalisation offers great opportunities, its benefits are very unevenly shared at present, while its costs are unevenly distributed.

The first ever Summit of the Group of 77 (the "South Summit") was held from 10-14 April 2000 in Havana. Apart from the intensively negotiated Declaration and the Programme of Action, the Summit also adopted "Other Decisions" as the output of the interactive session between Heads of State and Government. The Indian delegation was led by the Minister for Human Resource Development.

The first substantive session of the preparatory committee of the High Level Inter-Governmental Event on financing for Development was held in New York from 30 May-2 June 2000. It adopted a comprehensive resolution, which included a tentative preliminary agenda. India was able to include in the agenda a clear reference to the problems of developing countries. The 55th General Assembly decided that this event would be held in the first quarter of 2002.

The resolution adopted by the 55th session of the UN General Assembly on the "Role of the United Nations in promoting development in the context of globalisation and interdependence" called on the international community to promote international development co-operation aimed at enhancing growth, stability, equity and the participation of developing countries in the globalising world economy through appropriate measures, including support for structural and macroeconomic reform, foreign direct investment, enhanced official development assistance, capacity building and dissemination of knowledge and technology. The substantive session of the UN Economic and Social Council was held in New York from 5 July to 1 August 2000. India also hosted an Asian Regional Meeting to prepare for these discussions.

SOCIAL, HUMAN RIGHTS AND HUMANITARIAN ISSUES

India participated constructively in the meeting of the UN Commission on Human Rights, its Sub-Commission on Promotion and Protection of Human Rights and Discussions on human rights and related questions in the Economic and Social Council as also the UN General Assembly. India reaffirmed in these forums the principles of universality and indivisibility of human rights and sought to promote greater understanding among peoples and a culture of tolerance and pluralism. India also called for de-politicisation of the human rights debate, and for strengthening of cooperation, dialogue and national capacity-building as the most effective means of promoting human rights.

COMMUNITY OF DEMOCRACIES

The External Affairs Minister led the Indian delegation to the Ministerial

Conference entitled "Towards a Community of Democracies" held in Warsaw on 25-27 June 2000. India played a leading role in the deliberations of the meeting and in finalising the Declaration and the final Communiqué.

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT ISSUES

The eighth session of the UN Commission on Sustainable Development was held in New York from 24 April to 5 May 2000 and addressed issues relating to agriculture, land resources, trade and financial resources in the context of sustainable development. The Indian delegation, led by Minister of Environment & Forests, emphasised the crucial need for food security in developing countries as well as the role of sustained growth in agriculture. At the 55th General Assembly, India continued to play an active role in the Second Committee of the 54th GA which examined a range of macro-economic, environmental and development issues.

SPECIALISED AGENCIES

INTERNATIONAL LABOUR ORGANISATION

The Indian delegation at the 88th session of the International Labour Conference of the International Labour Organisation (ILO) held in Geneva was led by the Union Labour Minister. India was nominated to Chair the Conference Committee on Human Resource, Training and Development. The Secretary, Labour, presided over this Committee. Important social and labour questions including the discussion on the first global report under the follow-up to the ILO Declaration on the Fundamental Principles and rights at Work were addressed at the conference.

WORLD INTELLECTUAL PROPERTY ORGANISATION

India was a member of the Co-ordination Committee of World Intellectual Property Organisation (WIPO) by virtue of its membership of the Paris Union Executive Committee. Indian experts participated in the WIPO Standing Committees on Information Technology, Law of Patents, Law of Trademarks, Industrial Designs and Geographical Indications, as well as Copyright and Related Rights and contributed effectively in the discussions for creation of international obligations and norms for intellectual protection in these areas.

UNESCO

India actively participated in the 159th and 160th sessions of the Executive Board of UNESCO held in May and October 2000. The Indian delegation played a very active role in defining the programme priorities of UNESCO both for the next Medium Term Strategy 2001-07 and the next Biennium Programme 2001-02.

UNIDO

During the year, the following UNIDO meetings were held : Industrial Development Board (22nd Session—29 May-22 June 2000), Programme and Budget Committee (16th Session—4-8 September 2000) and Industrial

Development Board (23rd Session — 13-17 November 2000). The main focus in the UNIDO meetings remained the continuing financial difficulties of UNIDO and on how to sustain and make more effective implementation of technical co-operation activities.

WORLD HEALTH ORGANISATION

The Indian delegation played an active role in the deliberations of the World Health Assembly in May 2000 which discussed important issues such as the launching of an Inter-governmental Negotiating Body to negotiate a Framework Convention on Tobacco Control; the roll-back Malaria Programme; Revised Drug Strategy; HIV/AIDS and Food Safety. Expressing concern at the increase in communicable diseases, the Indian delegation asked for a reasonable commitment of resources and improvement in delivery system for facilitating a more focussed implementation of health programmes.

FAO DG VISITS INDIA

Dr Jaques Diouf, the Director General of the Food and Agriculture Organisation visited India on 11-12 September 2000 for discussions with the Indian Government and to review FAO's activities in the country.

COMMONWEALTH

India, the largest member of the Commonwealth, is represented in all its important controlling bodies of the secretariat and organisations. It is the fourth largest contributor, a major source of expert assistance provided to other Commonwealth countries and a major destination for Commonwealth trainees. India has always demonstrated solidarity with fellow developing nations and their aspirations at the UN. India augmented its contribution to the Joint Office of Commonwealth Small States to the UN from US \$15,000 to US \$ 75,000 per annum.

FOREIGN ECONOMIC RELATIONS AND TRADE & INVESTMENT PROMOTION

While the boom in the world economy continued in the first half of year 2000, ensuring an equitable distribution of the benefits of globalization remained a challenge. India was at the forefront in the efforts to highlight the impact of globalization on the markets of developing countries. India's trade and economic relations registered a steady growth over the year, with exports rising by 20.51 per cent in the first seven months of the financial year. There was progressive relaxation of the post Pokharan economic restrictions against India by some countries while Sweden, Germany, Norway, Denmark and the Netherlands resumed development cooperation.

India maintained over the year that there should be a global convergence on development, with focus on technology flows from the North to South. The Union Minister for Human Resource Development and Science and Technology led the Indian delegation to the first ever summit level meeting of the developing countries at Havana in April 2000. India played a leading

role in the discussions. The Vice-President of India led the Indian delegation to the G-15 Summit in Cairo in June 2000 and helped to highlight India's stand on issues like a new WTO Round, special and differential needs of developing countries under WTO and revamping of the global financial architecture. India continued its active participation in the Indian Ocean Rim Association for Regional Cooperation under which it is involved in four projects. At various multilateral meetings, India highlighted the existing inequities in the WTO agreements, especially the restrictions imposed on developing country exports through non-tariff barriers. India participated as a full dialogue partner of the ASEAN in the 33rd Post Ministerial Conference (PMC) in July 2000. At the PMC, India, Cambodia, Vietnam, Thailand, Myanmar and Laos PDR also announced the Mekong-Ganga Cooperation initiative for cooperation in tourism, culture, education and transport and communication. The MGC was formally launched in November 2000 at Vientiane in Laos PDR. India's active participation in the BIMST-EC continued with the Trade Minister's Meeting in New Delhi in April 2000 and the Third BIMST-EC Ministerial meeting in New Delhi in July 2000, where India took over the Chairmanship of sub-regional grouping.

There were concerted efforts to encourage the flow of FDI into India, particularly in key areas like infrastructure, energy, telecom and Information Technology. Regular feedback was received from the Missions of investor perceptions about India.

CONSULAR SERVICES AND INDIANS OVERSEAS

With more Indians travelling and working abroad, the importance of consular services has increased dramatically. There is also a far greater rush for passports than before. Appropriate improvements, including computerisation, were continued in these directions to provide efficient and expeditious service to the citizens. Steps are also being contemplated to streamline the card scheme for persons of Indian origin (PIO) to make it more attractive and popular. The PIO Cards Scheme besides introducing a visa-free regime, also confers some special economic, educational, financial and cultural benefits.

NON-RESIDENT INDIANS AND PEOPLE OF INDIAN ORIGIN

In a bid to tap the potential of vast and successful expatriate community, and to serve them better a separate NRI/PIO Division was set up in the Ministry of External Affairs in April 2000. This cell will act as a focal point for all issues regarding the Overseas Indians. A high-level committee on Indian Diaspora was also set up in September 2000 to study the issues and recommended a suitable policy framework that will facilitate the participation of NRIs and PIOs in the country's efforts. A special website on Indian Diaspora was inaugurated in December 2000. In January 2001, the Prime Minister inaugurated the Global Organisation of People of Indian Origin (GOPIO) in New Delhi.

TECHNICAL CO-OPERATION

India offers technical assistance under the Indian Technical and Economic

Cooperation (ITEC) Programme and the Special Commonwealth African Assistance Plan(SCAAP) to 144 developing countries in Asia, Africa, Latin America, Eastern Europe and the Pacific. The assistance has been in following terms: Training (both civil and military); projects and project-related assistance, consultancy services and feasibility studies; deputation of experts; and study visits of senior officials/decision makers to India.

PROPAGATION OF HINDI ABROAD

The Ministry of External Affairs persisted in its efforts to promote the use of Hindi in its offices as well as Missions/Posts abroad. All important documents bilateral treaties, MoU, credentials, speeches, annual report of the Ministry and parliament questions were issued bilingually. Being the golden jubilee year of the declaration of Hindi as the official language, special programmes were organised in the Missions. Seven Hindi teachers were appointed in the Missions abroad. The leap office Hindi software has been provided to 67 Missions abroad.

FOREIGN SERVICE INSTITUTE

The Foreign Service Institute of the Ministry of External Affairs continued its task of training the personnel of the Ministry, both officers and staff, through regular modules. The 25th and 26th Professional Courses for Foreign Diplomats were completed in the financial year.

EXTERNAL PUBLICITY

India's External Publicity efforts covered a wider canvas of projecting India through publications, films, direct communication with media and electronic means. The Ministry of External Affairs maintained an updated website which has continuously expanded and gained international recognition for its content and credibility. It has been endeavoured to strengthen the information infrastructure in the Indian Missions abroad through acquisition of publicity-related equipment such as DVD players, film and slide projectors, dish antenna, CD Players, etc.

CULTURAL RELATIONS

The Indian Council of Cultural Relations carried on its role of acting as a cultural ambassador for the country. The major activities of the Council were: implementation of scholarship programme for overseas students; exchange of exhibitions; organisation of symposia and seminars; exchange of artists; establishing and maintaining Chairs and Professorships for Indian studies abroad; presentation of books; providing the secretariat for the Jawaharlal Nehru Award for International Understanding, etc.

29 States and Union Territories

ANDHRA PRADESH

Area	: 2,75,045 sq km	Population	: 7,57,27,541
Capital	: Hyderabad	Principal Languages	: Telugu and Urdu

HISTORY AND GEOGRAPHY

The earliest mention of the Andhras is said to be in *Aitereya Brahmana* (2000 BC). It indicates that the Andhras, originally an Aryan race living in north India migrated to south of the Vindhya and later mixed with non-Aryans. Regular history of *Andhra Desa*, according to historians, begins with 236 BC, the year of Ashoka's death. During the following centuries, *Satavahanas*, *Sakas*, *Ikshvakus*, Eastern *Chalukyas*, *Kakatiyas* ruled the Telugu country. Other dynasties that ruled over the area in succession were the kingdoms of Vijayanagar and Qutub Shahi followed by Mir Qumruddin and his successors, known as the Nizams. Gradually, from the 17th century onwards, the British annexed territories of the Nizam and constituted the single province of Madras. After Independence, Telugu-speaking areas were separated from the composite Madras Presidency and a new Andhra State came into being on 1 October 1953. With the passing of the States Reorganization Act, 1956, there was a merger of Hyderabad State and Andhra State, and consequently Andhra Pradesh came into being on 1 November 1956.

Andhra Pradesh is bound on the north by Orissa and Chhattisgarh, on the west by Maharashtra and Karnataka, on the south by Tamil Nadu and on the east by the Bay of Bengal with a coastline of 974 km.

AGRICULTURE

Agriculture is the main occupation of about 70 per cent of the people in Andhra Pradesh. Rice is a major food crop and staple food of the State contributing about 80 per cent to 85 per cent of the foodgrain production. Other important crops are *jowar*, *bajra*, maize, ragi, small millets, pulses, castor, tobacco, cotton and sugarcane. Forests cover 23 per cent of the State's area. Important forest products are teak, eucalyptus, cashew, casurina, bamboo, softwood, etc.

IRRIGATION

Important irrigation schemes implemented in the State include Nagarjunasagar project, Prakasam Barrage, Sir Arthur Cotton Barrage, Tungabhadra low-level canal, Kurnool-Cuddapah canal, Kadam project, Romperu drainage project and upper Pennar project. Other important projects under implementation

are Sriramsagar, Vamsadhara, Srisailem right branch canal, Yeluru Reservoir Scheme, Godavari delta system, etc. The expenditure for the ongoing projects during 2000-01 was 649 crore while the budget allotment is 760 crore. Net area irrigated through all irrigation sources during 1999-2000 was 43.84 lakh hectares.

Andhra Pradesh is the first state to involve the farmers in the management of irrigation sources. There were 9,885 water user associations and 163 distributory committees formed and Rs 112 crore were allotted to these associations during 2001-02 to make them functional and economically viable.

POWER

Important power projects in the State are : the Nagarjunasagar and Neelam Sanjiva Reddy Sagar (Srisailem Hydrel Project), Upper Sileru, Lower Sileru, Tungabhadra Hydrel Projects and Nellore, Ramagundam, Kothagudem, Vijayawada and Muddanur thermal power projects. The Srisailem Hydro Electric Project with an installed capacity of 770 MW and the Nagarjunasagar Complex with 960 MW are the principal sources of hydrel generation. Vijayawada Thermal Power Station with an installed capacity of 1,260 MW and Kothagudem Thermal Power Station with an installed capacity of 1,180 MW are the main sources of thermal power generation. The 1,000 MW coal-based Simhadri Thermal Power Station aims at supplying the entire energy generated to the State.

INDUSTRY AND MINERALS

There are several major industries in operation around Hyderabad and Visakhapatnam. They manufacture machine tools, synthetic drugs, pharmaceuticals, heavy electrical machinery, fertilizers, electronic equipments, aeronautical parts, cement and cement products, chemicals, asbestos, glass and watches. Andhra Pradesh has the largest deposits of quality chrysotile asbestos in the country. Other important minerals found in the state are copper ore, manganese, mica, coal and limestone. The Singareni Coal Mines supply coal to the entire south India.

There were 2,999 large and medium scale industries in the State with a total investment of Rs 41,077 crore, providing employment to 8,02,209 persons as on 31 March 2001. Besides, there were 3,29,444 tiny and small scale industries with credit assistance of Rs 2,707.53 crore employing 28,09,468 persons.

TECHNOLOGY

The State government is also promoting Indian Institute of Information Technology (IIIT) at Hyderabad.

TRANSPORT

Roads

National Highways passing through Andhra Pradesh constitute 3,967 km. There are 60,982 km of state highways and 1,00,468 km of *Panchayati Raj* roads in the State.

Railways

Of the railways route covering 5,029 km in Andhra Pradesh, 4,306 km is broad-gauge, 686 km is metre-gauge and 37 km is narrow gauge.

Aviation

Important airports in the State are located at Hyderabad, Tirupathi and Visakhapatnam. International flights are operated from Hyderabad.

Ports

Visakhapatnam is a major port in the State. Minor ports are located at Kakinada, Machilipatnam, Bheemunipatnam, Krishnapatnam, Vadarevu and Kalingapatnam.

TOURIST CENTRES

Charminar, Salarjung Museum, Golconda Fort in Hyderabad, Thousand Pillar Temple and Fort in Warangal, Sri lakshmi Narasimha Swamy Temple at Yadagirigutta, Buddha Stupa at Nagarjunakonda and Nagarjuna Sagar, Sri Venkateswara Temple at Tirumala-Tirupathi, Sri Mallikarjunaswamy Temple at Srisailem, Kanaka Durga Temple at Vijayawada, Sri Satyanarayana Swamy Temple at Annavaram, Sri Varaha Narasimha Swamy Temple at Simhachalam, Sri Sita Rama Temple at Bhadrachalam, Araku Valley, Horsley Hills, Nelapattu, etc., are the major tourist attractions in Andhra Pradesh. Thirty-three life-size statues of eminent Telugu personalities of the State were erected on Tankbund of Hussainsagar lake in Hyderabad. A giant statue of Lord Buddha of a height of about 60 feet has been erected on the Gibraltar rock in the Hussainsagar lake which separates Hyderabad and Secunderabad cities. The State Government allotted Rs 41.78 crore during 2001-02 for tourism development.

GOVERNMENT

Governor	: Dr C. Rangarajan	Chief Secretary	: P.V. Rao
Chief Minister	: N. Chandrababu Naidu	Chief Justice	: A.C. Lakshmanan
Speaker	: K. Pratibha Bharathi	Jurisdiction of High Court	: Andhra Pradesh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area in 000' sq km	Population 2001 ¹	Headquarters
1.	Adilabad	16.1	24,79,347	Adilabad
2.	Ananthapur	19.1	36,39,304	Ananthapur
3.	Chittoor	15.2	37,35,202	Chittoor
4.	Cuddapah	15.4	25,73,481	Cuddapah
5.	East Godavari	10.8	48,72,622	Kakinada
6.	Guntur	11.4	44,05,521	Guntur

7.	Hyderabad	0.2	36,86,460	Hyderabad
8.	Karimnagar	11.8	34,77,079	Karimnagar
9.	Khammam	16.0	25,65,412	Khammam
10.	Krishna	8.7	42,18,416	Machilipatnam
11.	Kurnool	17.7	35,12,266	Kurnool
12.	Mahaboobnagar	18.4	35,06,876	Mahaboobnagar
13.	Medak	9.7	26,62,296	Sangareddy
14.	Nalgonda	14.2	32,38,449	Nalgonda
15.	Nellore	13.1	26,59,661	Nellore
16.	Prakasam	17.6	30,54,941	Ongole
17.	Nizamabad	8.0	23,42,803	Nizamabad
18.	Ranga Reddy	7.5	35,06,670	Hyderabad
19.	Srikakulam	5.8	25,28,491	Srikakulam
20.	Visakhapatnam	11.2	37,89,823	Visakhapatnam
21.	Vizianagaram	6.5	22,45,103	Vizianagaram
22.	Warangal	12.9	32,31,174	Warangal
23.	West Godavari	7.7	37,96,144	Eluru

¹ Provisional

ARUNACHAL PRADESH

<i>Area</i> :	83,743 sq km	<i>Population</i> :	10,91,117
<i>Capital</i> :	Itanagar	<i>Principal Languages</i> :	Monpa, Miji, Aka, Sherdukpen, Nyishi, Apatani, Tagin, Hill Miri, Adi, Digaru-Mismi, Idu-Mishmi, Khamti, Miju-Mishmi, Nocte, Tangsa and Wancho.

HISTORY AND GEOGRAPHY

Arunachal Pradesh, the erstwhile North-East Frontier Agency shares international boundaries with Bhutan, Tibet, China and Myanmar to the west, north-east, north and east respectively, and the state boundaries with Assam and Nagaland. The terrain consists of submontane and mountainous ranges, sloping down to the plains of Assam, divided into valleys by the rivers Kameng, Subansiri, Siang, Lohit and Tirap.

There are practically no records relating to the history of this area, except some oral literature and a number of historical ruins found mainly in the foothills. Subsequent explorations and excavations have identified the ruins as dating approximately from the early Christian era. The historical evidence indicates that not only was the area well known, but the people living here had close relations with the rest of the country.

Modern history of Arunachal Pradesh, begins with the inception of British rule in Assam after the treaty of Yandaboo concluded on 24 February 1826.

Before 1962 the area was popularly known as the North East Frontier Agency (NEFA), and was constitutionally a part of Assam. Because of its strategic importance, however, it was administered by the Ministry of External Affairs until 1965 and subsequently by the Ministry of Home Affairs, through the Governor of Assam. In 1972 it was constituted as a Union Territory and renamed Arunachal Pradesh. On 20 February 1987, it became the 24th state of the Indian Union.

AGRICULTURE AND HORTICULTURE

Agriculture is the mainstay of the people of Arunachal Pradesh and had mainly depended on *jhum* cultivation. Foodgrain production was 2,03,287 MT in 1998-99. Encouragement is being given to the cultivation of cash crops like potatoes and horticulture crops like apples, oranges and pineapples.

INDUSTRIES AND MINERALS

For conservation and explorations of vast minerals the Arunachal Pradesh Mineral Development and Trading Corporation Limited (APMDTCL) was set up in 1991. Namchik-Namphuk coal fields are taken up by APMDTCL.

To provide training to craftsmen in different trades there are two Industrial Training Institutes at Roing and Daporijo. At present there are 88 crafts and weaving centres, 18 medium scale industries, 5,224 registered SSI units besides one mini-cement plant, a fruit processing plant and a citronella oil distillery.

IRRIGATION AND POWER

A total area of 87,578 hectares has been irrigated since inception till 1998-99. The installed capacity of the State is about 30,735 MW. As many as 2,597 villages have been electrified out of 3,649 villages in the State.

TRANSPORT

Roads : Arunachal Pradesh has 330 km of national highway.

FESTIVALS

Some of the important festivals of the State are: *Mopin* and *Solung* of the *Adis*, *Lossar* of the *Monpas* and the *Sherdukpens*, *Boori-boot* of the *Hill Miris*, *Dree* of the *Apatanis*, *Si-Donyi* of the *Tagins*, *Reh* of the *Idu-Mishmis*, *Nyokum* of the *Nishings*, *Chalo loku* of the *Noctes*, etc. Animal sacrifice is a common ritual in most festivals.

TOURIST CENTRES

Places of tourist interest are : Tawang, Dirang, Bomdila, Tipi, Itanagar, Malinithan, Likabali, Pasighat, Along, Tezu, Miao, Roing, Daporijo, Namdapha, Bhismaknagar, Parashurarn Kund and Khonsa.

GOVERNMENT

<i>Governor</i>	: Arvind Dave	<i>Chief Secretary</i>	: Lalit Sharma
<i>Chief Minister</i>	: Mukut Mithi	<i>Jurisdiction of</i>	: Guwahati High Court
<i>Speaker</i>	: Tamiyo Taga	<i>High Court</i>	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S .No.	District	Area (sq km)	Population	Headquarters
1.	Tawang	2,172	34,705	Tawang
2.	West Kameng	7,422	74,595	Bomdila
3.	East Kameng	4,134	57,065	Seppa
4.	Papum-Pare	2,875	1,21,750	Yupia
5.	Lower Subansiri	10,135	97,614	Ziro
6.	Upper Subansiri	7,032	54,995	Daporijo
7.	West Siang	8,325	1,03,575	Along
8.	East Siang	4,005	87,430	Pasighat
9.	Upper Siang	6,188	33,146	Yingkiong
10.	Dibang Valley	13,029	57,543	Anini
11.	Lohit	11,402	1,43,478	Tezu
12.	Changlang	4,662	1,24,994	Changlang
13.	Tirap	2,362	1,00,227	Khonsa
14.	Kurung-Kumey	NA	NA	Laaying-Yangte

ASSAM

<i>Area</i>	: 78,438 sq km	<i>Population</i>	: 2,66,38,407
<i>Capital</i>	: Dispur	<i>Principal Language</i>	: Assamese

HISTORY AND GEOGRAPHY

The word 'Assam' as interpreted by some scholars is derived from the Sanskrit word *Asoma* meaning peerless or unparalleled. But the widely accepted opinion of the academic circles today is that the term has come from the original name of the *Ahoms*, who ruled the land for about six hundred years prior to its annexation by the British. The races like Austric, Mongolian, Dravidian and Aryan that came to this land long-long ago have contributed to its composite culture. Thus Assam has a rich legacy of culture and civilization.

Assam was known as Pragjyotisha or the place of eastern astronomy during the epic period and later named as Kamrupa. The earliest epigraphic reference to the kingdom of Kamrupa is found in the Allahabad pillar inscription of king Samudragupta. Kamrupa is mentioned as a *Pratyanta* or frontier state outside the Gupta empire but with friendly and subordinate relation to it. Hiuen Sang, the Chinese scholar pilgrim who visited Kamrupa in about 743 AD on an invitation of its monarch, Kumar Bhaskar Varman, left a record of the kingdom he called Kamolupa. Kamrupa also figured in the writings of the Arabian historian Alberuni in the eleventh century. Thus, from the epic period down to the twelfth century AD, the eastern frontier kingdom was known as Pragjyotisha and Kamrupa and kings called themselves Lords of Pragjyotisha'.

The advent of the Ahoms across the eastern hills in 1228 AD was the turning-point in Assam history. They ruled Assam nearly for six centuries. The Burmese entered through the eastern borders and overran the territory at a time when court intrigues and dissensions were sapping the vitality of the Ahom royalty. It became a British protectorate in 1826 when the Burmese ceded Assam to the British under the provision of the Treaty of Yandabo.

Assam is the sentinel of north-east India and gateway to the North-Eastern States. The State is close to India's international borders with Bangladesh and Bhutan. Assam is surrounded by Bhutan and Arunachal Pradesh on the north, Manipur, Nagaland and Arunachal Pradesh on the east and Meghalaya, Tripura and Mizoram on the south.

AGRICULTURE

Assam is an agricultural State. Agriculture occupies an important place in the economy of the State. The principal food crop is rice. The cash crops are jute, tea, cotton, oilseeds, sugarcane, potato, etc. Noteworthy horticulture items are orange, banana, pineapple, arecanut, coconut, guava, mango, jackfruit and citrus fruits. The State has an estimated 39.44 lakh hectares gross cropped area of which net area sown is about 27.01 lakh hectares.

FORESTS

Assam is known for her rich forest wealth. The total area under forests was 20.24 lakh hectares at the end of March 1999, out of which, area under reserved forests was 17.42 lakh hectares. This constituted 22.21 per cent of the total forest area.

WILD LIFE

The State has five National Parks and eleven wildlife sanctuaries. The Kaziranga National Park and the Manas Tiger Project (National Park) are internationally famous.

INDUSTRY

Of agriculture-based industries, tea occupies an important place. Assam

produced 414 million kg finished tea in 1999. The exploitation of minerals in the State comprises mainly of petroleum (crude), natural gas (utilised), coal and limestone. During 1999, Assam produced 50.01 lakh MT of crude oil, 133.3 crore cubic metre of natural gas, 9.21 lakh MT of coal and 3.79 lakh MT of limestone. There are six industrial growth Centres in the State and two such Centres are being set up at Balipara and Matia. Presently four oil refineries have been working in the State including the one at Digboi. Construction of the Export Promotion Industrial Park (EPIP) at Amingaon near Guwahati is nearing completion. A Software Technology Park will be constructed at Borjhar near Guwahati. A Central Institute for Plastic Engineering Technology (CIPET) has been established at Amingaon near Guwahati. Assam has always enjoyed the highest reputation for her arts and crafts associated with her cottage industries. Cottage industries include handloom, sericulture, cane and bamboo articles, carpentry, brass and bell-metal crafts. Assam produces varieties of silk, *Endi*, *Muga*, *Tassar*, etc. *Muga* silk is produced only in Assam in the world.

IRRIGATION AND POWER

Irrigation potential created up to 1999-2000 was about 8.98 lakh hectares of which the Irrigation Department had covered an area of 4.95 lakh hectares.

The installed capacity of power remained 574.4 MW from 1997-98 to 1999-2000. The major power stations are Chandrapur Thermal Project, Namrup Thermal Project and a few Mobile Gas Turbine Units along with a mini hydro-electric project. Revitalising the Thermal Power Station of Bongaigaon and completing the Karbi-Langpi Project will boost the power supply in the State. Approval has been received for Tipaimukh Dam Project.

TRANSPORT

Roads

The total length of roads in the State was 33,064 km which includes 2,038 km of National Highways.

Railways

The length of railway tract in Assam is 2,391.76 km comprising 1,061.29 km under broad-gauge and 1,330.47 km under meter-gauge lines. The extension of broad-gauge line from Guwahati to Dibrugarh has been completed and the Naranarayana Setu, the third bridge over the Brahmaputra at Jogighopa-Pancharatna was opened in 1998.

Aviation

The regular civil air services are operating from Lokopriya Gopinath Bordoloi Airport (Guwahati), Salonibari (Tezpur), Mohanbari (Dibrugarh), Kumbhirgram (Silchar), Rawriah (Jorhat) and Silonibari (North Lakhimpur).

FESTIVALS

Assam has an exclusive range of colourful festivals. *Bihu* is the chief festival

celebrated on the three occasions. *Rongali Bihu* or *Bohag Bihu* marks the advent of the cropping season and it also ushers in the Assamese New Year. *Bhogali Bihu* or *Magh Bihu* is the harvest festival and *Kati Bihu* or *Kongali Bihu* coming in autumn is a simple affair.

Religion accounts for a large variety of festivals. *Vaishnavites* observe birth and death anniversaries of prominent *Vaishnava* saints through day-long singing of hymns and staging of *Bhaonas* (theatrical performances in traditional style). *Ambubachi* in Kamakhya shrine, *Sivaratri Mela* at Umananda and other places near Siva temples, *Durga Puja*, *Diwali*, *Dol-Jatra*, *Id*, Christmas, *Ashokastami Mela*, *Rash Mela*, *Parasuram Mela* are other religious festivals.

TOURISM

Important places of tourism in and around Guwahati are Kamakhya temple, Umananda (Peacock Island), Navagraha (temple of nine planets), Basistha Ashram, Dolgobinda, Gandhi Mandap, State Zoo, State Museum, Sukreswar temple, Gita Mandir, Madan Kamdev temple, a magnificent archaeological place of interest, and Saraighat bridge.

Other places of tourist interest in the State are : Kaziranga National Park (famous for one horned rhino), Manas Tiger Project, Pobi-tora and Orang (wildlife sanctuaries), Sibsagar (Shiv Temple-Rangghar-Karengghar), Tezpur (Bhairavi temple and scenic beauty), Bhalukpong (Angling), Haflong (health resort with Jatinga hills), Majuli (largest river island in the world), Chandubi lake (picnic spot), Hajo (meeting point of Buddhism, Hinduism and Islam), Batadrava (birth place of great Vaishnava saint Sankaradeva) and Sualkuchi (famous for silk industry).

GOVERNMENT

Governor	: Lt. Gen. (Retd.) S.K. Sinha	Chief Secretary	: P.K. Bora
Chief Minister	: Tarun Gogoi	Chief Justice	: R.S. Mongia
Speaker	: Prithibi Majhi	Jurisdiction of	: All North-Eastern States
		Guwahati High	
		Court	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population (in lakh) ¹	District Headquarters
1.	Dhubri	2,838	16.35	Dhubri
2.	Kokrajhar	3,129	9.30	Kokrajhar
3.	Bongaigaon	2,510	9.06	Bongaigaon
4.	Goalpara	1,824	8.22	Goalpara
5.	Barpeta	3,245	16.42	Barpeta
6.	Nalbari	2,257	11.38	Nalbari

7.	Kamrup	4,345	25.15	Guwahati
8.	Darrang	3,481	15.04	Mangaldoi
9.	Sonitpur	5,324	16.78	Tezpur
10.	Lakhimpur	2,277	8.89	North Lakhimpur
11.	Dhemaji	3,217	5.89	Dhemaji
12.	Morigaon	1,704	7.76	Morigaon
13.	Nagaon	3,831	23.15	Nagaon
14.	Golaghat	3,502	9.46	Golaghat
15.	Jorhat	2,851	10.09	Jorhat
16.	Sibsagar	2,668	10.53	Sibsagar
17.	Dibrugarh	3,381	11.72	Dibrugarh
18.	Tinsukia	3,790	11.50	Tinsukia
19.	Karbi-Anglong	10,434	8.12	Diphu
20.	North Cachar Hills	4,888	1.86	Haflong
21.	Karimganj	1,809	10.04	Karimganj
22.	Hailakandi	1,327	5.43	Hailakandi
23.	Cachar	3,786	14.42	Silchar

¹ Provisional

BIHAR

Area	: 94,163 sq km	Population	: 8,28,78,796
Capital	: Patna	Principal Language	: Hindi

HISTORY AND GEOGRAPHY

Bihar finds mention in the *Vedas*, *Puranas*, epics, etc., and was the main scene of activities of Buddha, and 24 Jain Tirthankars. Great rulers of the State before the Christian era were Bimbisara, Udayin, who founded the city of Pataliputra. Chandragupta Maurya and Emperor Ashoka and Maurya dynasty, the Sungas and the Kanvas. Then came the Kushan rulers followed by Chandragupta Vikramaditya of the Gupta dynasty. Muslim rulers made in-roads into the territory during medieval period. The first conqueror of Bihar was Mohammed-bin-Bakhtiar Khalji. The Tughluqs and then the Mughals followed the Khaljis.

One of the major states of the Indian Union, Bihar is bounded on the north by Nepal, on east by West Bengal, on west by Uttar Pradesh and on south by Jharkhand. Bihar has a number of rivers, the most important of which is the Ganga. The other rivers are the Sone, Poonpoo, Falgu, Karmanasa, Durgawati, Kosi, Gandak, Ghaghara, etc.

AGRICULTURE

Bihar has a total geographical area of about 93.60 lakh hectare, out of which only 56.03 lakh hectare is the net cultivated area and gross cultivated area being 79.46 lakh hectare. About 33.51 lakh hectare net area and 43.86 lakh hectare gross area receive irrigation from different sources. Principal food crops are paddy, wheat, maize and pulses. Main cash crops are sugarcane,

States and Union Territories

potato, tobacco, oilseeds, onion, chillies, jute and mesta. Bihar has notified forest area of 6,764.14 sq km, which is 7.1 per cent of its geographical area.

INDUSTRIES

Major Industries are : Railway Wagon Plants of Bharat Wagon Limited at Muzaffarpur and Mokamah; Oil Refinery of Indian Oil Corporation at Barauni; Fertilizer Manufacturing Plant of Hindustan Fertilizer Corporation Limited (HPCL) at Barauni and Pyrites Phosphates & Chemicals Limited (PPCL) at Amjhor; Cotton Spinning Mills at Siwan, Pandaul, Bhagalpur, Mokamah and Gaya; 13 sugar mills in private sector and 15 in the public sector located in south and north Bihar with a total crushing capacity of 45,000 TPD. In addition, distilleries at Gopalganj, West Champaran, Bhagalpur and Riga (in Sitamarhi district); Finished Leather Industry in West Champaran, Muzaffarpur and Barauni; Jute Mills at Katihar and Samastipur; Medicine Manufacturing Unit at Hajipur; Food Processing Units as also Vanaspati Manufacturing Units at Aurangabad and Patna; besides Kalyanpur Cement Limited at Banjari, are notable in the industrial map of Bihar.

IRRIGATION AND POWER

Bihar has an irrigation potential of 93.38 lakh hectare. Out of this, 53.53 lakh hectare is to be created through major and medium irrigation schemes and 44.85 lakh hectare through minor irrigation schemes. Irrigation potential of 53.53 lakh hectare is targeted for creation by the end of the Twelfth Five-Year Plan. Major power projects under the state sector are: Barauni Thermal Power Station (320 MW), Muzaffarpur Thermal Power Station (220 MW), Kosi Hydel Power (19.2 MW) under the Bihar State Electricity Board and Tenughat Power Station under Tenughat Vidyut Nigam Limited. Under the Central sector, the major power station is Kahalgaon Super Thermal Power Project (840 MW) under National Thermal Power Corporation. Besides, Bihar receives its share of power from Farakka Super Thermal Power Station and Talcher Super Thermal Power Project under the National Thermal Power Corporation, Durgapur Thermal Power Station under DVC and Chukka Hydel Power Station under National Hydro-electric Power Corporation.

TRANSPORT

Roads

Up to March 2001, Bihar had 13,412.80 km of *pucca* roads including 2,461.73 km of national highways and 10,951.07 km of state highways and major district roads. In addition to this, the length of rural roads is 15,000 km.

Railways

Bihar has a fairly good railway network. Communication in north Bihar is difficult as there is only one railway bridge at Mokamah. A few railway routes connecting important places like Muzaffarpur-Samastipur-Barauni-Katihar and Muzaffarpur-Chapra-Siwan have been converted into broad gauge. The main rail junctions are at Patna, Gaya, Muzaffarpur, Katihar and Samastipur.

Aviation

There is an international airport at Patna, besides landing grounds in all major districts of the State.

TOURIST CENTRES

Important places of tourist interest are Rajgir, Nalanda, Vaishali, Pawapuri (where Lord Mahavira breathed his last and attained *Nirvana*), Bodh Gaya, Vikramshila (ruins of Buddhist University of higher learning), Gaya, Patna (ancient city of Patliputra), Sasaram (tomb of Shershah Suri) and Madhubani (known for famous Madhubani Paintings).

GOVERNMENT

<i>Governor</i>	: V.C. Pande	<i>Chief Secretary</i>	: Mukund Prasad
<i>Chief Minister</i>	: Mrs Rabri Devi	<i>Chief Justice</i>	: Ravi S. Dhavan
<i>Speaker</i>	: Sada Nand Singh	<i>Jurisdiction of</i>	: Bihar
		<i>High Court</i>	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (in sq km)	Population	Headquarters
1.	Araria	2,796.8	21,24,831	Araria
2.	Aurangabad	3,389.2	20,04,960	Aurangabad
3.	Begusarai	1,889.1	23,42,989	Begusarai
4.	Bhagalpur	2,501.9	24,30,331	Bhagalpur
5.	Banka	3,020.2	16,08,778	Banka
6.	Bhojpur	2,337.0	22,33,415	Arrah
7.	Buxar	1,633.6	14,03,462	Buxar
8.	Kaimur (Bhabhua)	1,840.3	12,84,575	Bhabhua
9.	Darbhanga	2,502.0	32,85,473	Darbhanga
10.	East Champaran	4,154.8	39,33,636	Motihari
11.	Gaya	4,941.0	34,64,983	Gaya
12.	Gopalganj	2,009.2	21,49,343	Gopalganj
13.	Jahanabad	1,569.3	15,11,406	Jahanabad
14.	Jamui	2,996.5	13,97,474	Jamui
15.	Saharsa	1,195.6	15,06,418	Saharsa
16.	Katihar	3,009.9	23,89,533	Katihar
17.	Khagaria	1,485.8	12,76,677	Khagaria
18.	Kishanganj	1,938.5	12,94,063	Kishanganj
19.	Madhepura	1,797.4	15,24,596	Madhepura
20.	Madhubani	3,477.8	35,70,651	Madhubani
21.	Munger	-	11,35,499	Munger
22.	Lakhisarai	3,302.2	8,01,173	Lakhisarai
23.	Sheikhpura	-	5,25,137	Sheikhpura

24.	Muzaffarpur	3,122.7	37,43,836	Muzaffarpur	
25.	Nalanda	2,361.7		23,68,327	Biharsharif
26.	Nawada	2,497.5		18,09,425	Nawada
27.	Patna	3,130.1		47,09,851	Patna
28.	Purnea	3,202.3		25,40,778	Purnea
29.	Rohtas	3,838.2		24,48,762	Sasaram
30.	Samastipur	2,578.7		34,13,413	Samastipur
31.	Saran	2,624.1		32,51,474	Chapra
32.	Sitamarhi	2,627.7		26,69,887	Sitamarhi
33.	Sheohar	-		5,14,288	Sheohar
34.	Siwan	2,213		27,08,840	Siwan
35.	Supaul	2,984.9		17,45,069	Supaul
36.	Vaishali	1,995.3		27,12,389	Hazipur
37.	West Champaran	4,249.9		30,43,044	Bettiah

CHHATTISGARH

Area	: 1,35,191 sq km	Population	: 2,07,95,956
Capital	: Raipur	Principal Language	: Hindi

HISTORY AND GEOGRAPHY

Chhattisgarh carved out of Madhya Pradesh came into being on 1 November 2000 as the 26th State of the Union. It fulfills the long-cherished demand of the tribal people. In ancient times the region was known as Dakshin-Kausal. This finds mention in *Ramayana* and *Mahabharata* also. Between the sixth and twelfth centuries Sarabhpurias, Panduavanshi, Somvanshi, Kalchuri, and Nagvanshi rulers dominated this region. Kalchuris ruled in Chhattisgarh from 980 to 1791 AD. With the advent of Britishers in 1854 Raipur gained prominence instead of capital Ratanpur. In 1904 Sambalpur was transferred to Orissa and estates of Sarguja were transferred from Bengal to Chhattisgarh.

Chhattisgarh is bounded by southern Jharkhand and Orissa in the east, Madhya Pradesh and Maharashtra in the west, Uttar Pradesh and western Jharkhand in the north and Andhra Pradesh in the south.

AGRICULTURE

More than 80 per cent population depends on agriculture. The area under cultivation is 43 per cent. Main crops are paddy, wheat, maize, groundnut, pulses and oilseeds. Forests occupy 45 per cent of the area.

INDUSTRY

Apart from Bhilai Steel Plant with 40 lakh tonnes capacity, eight sponge iron plants in the private sector, 13 ferro-alloy plants, 125 steel rolling mills and one H.R. strip plant have also been established. Chhattisgarh has nine major cement plants. Besides, iron casting units, engineering and fabrication units, agro-based food processing, chemical and plastic industries have been established.

MINERAL RESOURCES

Chhattisgarh is rich in mineral resources. Twenty per cent of the country's steel and cement is produced in the State. Iron-ore, limestone, dolomite, coal, bauxite are found in abundance. It is the only tin-ore producing state in the country. Other minerals such as korandum, garnet, quartz, marble, diamond are also found in Chhattisgarh. Compared to 1998-99, the production of coal, iron ore and limestone registered an increase of 29.49 lakh tonnes, 13.40 lakh tonnes and 30.13 lakh tonnes respectively in 1999-2000. The revenue receipt from minerals in 2001-02 is likely to increase to Rs 455 crore from Rs 394.50 crore during the preceding year.

IRRIGATION AND POWER

The irrigation potential of 13.39 lakh hectares was created during 1999-2000. An additional irrigation potential of 0.18 lakh hectares was created during 2000-01. Ravishankar Sagar Mahanadi project, Hasdeo-Bango, Kodar, Jonk, Pairi and Arpa are some of the important irrigation projects.

The total capacity of State Electricity Board is 1,360 MW out of this the thermal power share is 1,240 MW. Korba based National Thermal Power Corporation's capacity is 2,000 MW and a new unit of the plant is being established at Bilaspur. A hydel project in district Sarguja is in the advance stage of commissioning. Around 90 per cent of 19,720 inhabited villages of Chhattisgarh have been electrified.

TRANSPORT

Roads

The total length of the roads in the State is 35,388.54 km. The length of the national highways is 1,827.30 km, state roads 2,073.78 km, district roads 3,094.86 km and of rural roads 28,392.60 km.

Railways

Raipur, Bilaspur, Durg, Rajnandgaon and Raigarh are important railway stations. Total railways route length is 1,000 km.

Airlines

Raipur is connected with New Delhi and Nagpur by daily flights and with Mumbai and Bhubaneshwar by tri-weekly flights. Bilaspur, Bhilai, Raigarh, Ambikapur, Korba, Jashpurnagar and Rajnandgaon are having temporary airstrips/helipads.

FESTIVALS

Chhattisgarh is famous for its festivals. *Pola*, *Nawakhai*, *Dussehara*, *Deepawali*, *Holi*, *Govardhan Pooja* are celebrated with gaiety and festivity.

TOURIST CENTRES

The Sabari temple of Kharod Janjgir Champa, Nar Narayan temple of Sivarinarayan, Vishnu temple of Janjgir are important religious places. The

Keshkal valley, Chitrakoot and Teerathgarh fountain, Kangerghat National park, Kailash caves and Kutumbsar caves are rich in natural beauty. In Bilaspur, Mahamaya temple at Ratanpur, Khutalghat waterfall, Dindneswari Devi temple of Mallahar and the Achanakmar sanctuary, Udanti sanctuary near Raipur, Pali and Kendai waterfall of Korba district are important places of tourist interest.

GOVERNMENT

<i>Governor</i>	: Dinesh Nandan Sahaya	<i>Chief Justice</i>	: Justice W.A. Shishak
<i>Chief Minister</i>	: Ajit Jogi	<i>Chief Secretary</i>	: Arun Kumar
<i>Speaker</i>	: Rajendra Prasad Shukla	<i>Jurisdiction of High Court</i>	: Chhattisgarh

AREA, POPULATION AND HEADQUARTERS OF DISTRICT

S.No.	District	Area (in sq km)	Population	Headquarters
1.	Bastar	17,016	13,02,253	Jagdalpur
2.	Bilaspur	8,569	19,93,042	Bilaspur
3.	Durg	8,702	28,01,757	Durg
4.	Raigarh	6,528	12,65,084	Raigarh
5.	Raipur	13,445	30,09,042	Raipur
6.	Rajnandgaon	8,023	12,81,811	Rajnandgaon
7.	Sarguja	16,034	19,70,661	Ambikapur
8.	Koria	5,978	5,85,455	Baikunthpur
9.	Jashpur	6,457	7,39,780	Jashpur
10.	Janjgir-Champa	4,467	13,16,140	Janjgir
11.	Korba	5,769	10,12,121	Korba
12.	Kanker	6,434	6,51,333	Kanker
13.	Dantewara	15,610	7,19,065	Dantewara
14.	Mahasamund	4,963	8,60,176	Mahasamund
15.	Dhamatari	4,081	7,03,569	Dhamtari
16.	Kawardha	3,958	5,84,667	Kawardha

GOA

<i>Area</i>	: 3,702 sq km	<i>Population</i>	: 13,43,998
<i>Capital</i>	: Panaji	<i>Principal Languages</i>	: Konkani and Marathi

HISTORY AND GEOGRAPHY

Goa, known in the bygone days as Gomanchala, Gopakapattam, Gopakapuri, Govapuri, Gomantak, etc., abounds in a rich historical heritage. Early history of Goa is obscure. In the first century of the Christian era, Goa was a part of the Satavahana empire, followed by the Kadamba, the Rashtrakutas of Malkhed, the Chalukyas and the Silharas. The empire of the Yadavas by the end of the 14th century was displaced by the Khiljis of Delhi and thus Muslim

rule came to Goa. After the discovery of the sea route to India by Vasco-da-Gama in 1498, many Portuguese expeditions came to India. In 1510, Alfonso de Albuquerque with the help of the emperor of Vijayanagar attacked and captured Goa. With the arrival of the Jesuit priest Francis Xavier in 1542 proselytisation began in Goa. However, the Portuguese continued to rule over the territory except for an interlude during the latter half of the 17th century when Shivaji conquered a few areas in and around Goa. Even after India's independence, Goa continued to be in the hands of the Portuguese. However, they could not fulfil the aspirations of the Goan people and ultimately on 19 December 1961, Goa was liberated and made a composite union territory with Daman and Diu. On 30 May 1987 Goa was conferred statehood and Daman and Diu was made a separate union territory.

Goa is situated on the western coast of the Indian Peninsula. On its north runs the Terekhol river which separates Goa from Maharashtra and on the south lies North Canara district of Karnataka. On the east lie the Western Ghats and in the west the Arabian Sea. Panaji, Margao, Vasco, Mapusa and Ponda are the main towns of Goa.

AGRICULTURE

Rice is the main food crop. Pulses, ragi and other food crops are also grown. Main cash crops are coconut, cashewnut, arecanut, sugarcane and fruits like pineapple, mango and banana. The State has a rich forest cover of more than 1,424 sq km.

IRRIGATION AND POWER

With the commissioning of dams like Selaulim and Anjunem and other minor irrigation projects, area under irrigation is rising steadily. Work on Tilari dam has also been taken up. Total irrigation potential created by these projects is 43,000 hectares. All villages have been electrified leading to cent per cent coverage.

INDUSTRY AND MINERALS

The State has 5,765 small-scale industrial units with a total investment of Rs 219.09 crore and employment opportunities for 39,432 persons, in large and medium sector, 140 units with an investment of Rs 1,555.65 crore employing 18,923 persons. There are 16 industrial estates besides a new electronic city coming up in the State. Mineral products are ferro-manganese, bauxite and iron ore contributing substantially to the economy of the State through exports.

TRANSPORT

Roads

Of the motorable roads, national highway constitutes 224 km, state highways 232 km and district roads 815 km.

Railways

Goa is linked with Mumbai, Mangalore and Thiruvananthapuram through the Konkan Railway, which has introduced several fast trains on these lines. Vasco

da Gama is connected with Bangalore and Belgaum on the South Central Railway, presently for goods traffic only.

Aviation

Mumbai, Delhi, Thiruvananthapuram, Cochin, Chennai, Agartala and Bangalore are linked with Dabolim through regular Airlines services.

Ports

Mormugao is the major port in the State. Mormugao handles cargo vessels. Minor ports are located at Panaji, Tiracol, Chapora Betul and Talpona, out of which Panaji is the main operative port. One offshore berth at Panaji has been commissioned recently.

TOURIST CENTRES

Important tourist centres are Colva, Calangute, Vagator, Baga, Hermal, Anjuna and Miramar beaches; Basilica of Bom Jesus and Se Cathedral churches at Old Goa; Kavlem, Mardol, Mangueshi, Bandora temples; Aguada, Terekhol, Chapora and Cabo de Rama Forts; Dudhsagar and Harvalem Waterfalls and Mayem Lake Resort. The State has rich wildlife sanctuaries, viz., Bondla, Cotigao, Molem and Dr Salim Ali Bird Sanctuary at Chorao covering an area of 354 sq km.

GOVERNMENT

Governor	: Md. Fazal	Chief Secretary: Baleshwar Rai
Chief Minister	: Manohar Parrikar	Jurisdiction of : Falls under Panaji High Court Bench of Mumbai High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq km)	Population (1991 Census)	Headquarters
North Goa	1,736	6,64,804	Panaji
South Goa	1,966	5,04,989	Margao

GUJARAT

Area	: 1,96,024 sq km	Population : 5,05,96,992
Capital	: Gandhinagar	Principal Language : Gujarati

HISTORY AND GEOGRAPHY

The history of Gujarat goes back to 2000 BC. It is believed that Lord Krishna left Mathura to settle on the west coast of Saurashtra which later came to be known as Dwarka, the gateway. Later, it saw various kingdoms: Mauryans,

Guptas, Pratiharas and others. It was with Chalukya (Solankis) that Gujarat witnessed progress and prosperity. In spite of the plunderings of Mahmud Ghazni, the Chalukya kings were able to maintain general prosperity and well-being of the State. After this glorious respite, Gujarat faced troubled times under the Muslims, Marathas and the British rule.

Before Independence, the present territories of Gujarat used to be in two parts—the British and the Princely territories. With the reorganisation of the States, the Union of the States of Saurashtra and the Union Territory of Kachchh along with the former British Gujarat, became a part of the biggest bilingual State of Bombay. The present State of Gujarat came into being on 1 May 1960.

It is situated on the west coast of India. The state is bounded by the Arabian Sea on the west, Pakistan and Rajasthan in the north and north-east respectively, Madhya Pradesh in the south-east and Maharashtra in the south.

AGRICULTURE

Gujarat is the main producer of tobacco, cotton and groundnut in the country and provides inputs for important industries like textiles, oil and soap. Other important cash crops are *isabgol*, paddy, wheat and *bajra*. Forest species available in Gujarat are teak, *khair*, *sadad*, *haldariyo* and manual bamboos.

INDUSTRY

The industrial structure in the State has been gradually diversifying with the development of industries like chemicals, petrochemicals, fertilizers, engineering, electronics, etc. The number of registered working factories in the State were 20,050 (provisional) at the end of 2000 with the average daily employment to 8.68 lakh. The number of small scale industrial units in the State was 2,56,388 on 31 March 2001. Gujarat Industrial Development Corporation (GIDC) has been assigned the role of developing industrial estates with infrastructure facilities. As on 31 March 2001, GIDC had set up 257 industrial estates. These include mega industrial estates at Jhagadia, Vagra and Savli. GIDC is developing a large industrial estate at Dahej.

IRRIGATION AND POWER

The total irrigation potential through surface water as well as ground water has been assessed at 64.88 lakh hectares including 17.92 lakh hectares through Sardar Sarovar (Narmada) Project. The total irrigation potential created up to June 2000 is worked out to 36.65 lakh hectares. The maximum utilisation has been estimated at 31.21 lakh hectares up to June 2000.

The installed capacity at the end of March 2001 was 8,582 MW. Out of 18,028 villages, 17,940 villages have been electrified in the State.

TRANSPORT

Roads

The total length of roads was 73,397 km by the end of 1999-2000. The length of surfaced roads was 69,397 km.

Aviation

The main airport of Gujarat at Ahmedabad is connected with Mumbai, Delhi and other cities by daily services. Ahmedabad airport has now got the status of an International Airport. Other airports are at Vadodara, Bhavnagar, Bhuj, Surat, Jamnagar, Kandla, Keshod, Porbandar and Rajkot.

Ports

Gujarat has 40 ports of which Kandla is a major one. The intermediate and minor ports of Gujarat handled a total cargo of 731.80 lakh tonnes whereas Kandla port handled cargo of 367.41 lakh tonnes during 2000-01.

FESTIVALS

Tarnetar fair is held at village Tarnetar in the honour of Lord Shiva on the 4th, 5th and 6th days of the bright half of the month of *Bhadrapada* (August/September). *Madhavrai* fair at Madhavpur near Porbandar is held to celebrate the marriage by elopement of Lord Krishna and Rukmini, on the ninth day of the bright half of the month of *Chaitra* (March/April). *Ambaji* fair dedicated to Amba, mother goddess is held in Banaskantha district. The biggest annual fair, *Janmashtami* the birthday of Lord Krishna is celebrated at Dwarka and Dakor with great enthusiasm. Other festivals are *Makar-Sankranti*, *Navratri*, *Dangi darbar*, *Shamlaji* fair, *Bhavnath* fair, etc.

TOURIST CENTRES

Religious spots like Dwarka, Somnath, Palitana, Pavagadh, Ambaji, Bhadrashwar, Shamlaji, Taranga and Girnar; Porbandar, birth place of Mahatma Gandhi, places of memorable monuments of architectural and archaeological surprises like Patan, Siddhpur Ghumli, Dabhoi, Vadnagar, Modhera, Lothal and Ahmedabad; beautiful beaches like Ahmadpur-Mandvi, Chorwad, Ubharat and Tithal; the hill station Saputara; lion sanctuary of Gir Forest and wild ass sanctuary in Kachchh area are major tourist attractions in the State.

GOVERNMENT

Governor	: Sunder Singh Bhandari	Chief Secretary	: L.N.S. Mukundan
Chief Minister	: Narendra Modi	Chief Justice	: D.M. Dharmadhikari
Speaker	: Dhirubhai Shah	Jurisdiction of High Court	: Gujarat

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Ahmedabad	8,707	58,08,378	Ahmedabad
2.	Amreli	6,760	13,93,295	Amreli

3.	Anand	-	18,56,712	Anand
4.	Banaskantha	12,703	25,02,843	Palanpur
5.	Bharuch	9,038	13,70,104	Bharuch
6.	Bhavnagar	11,155	24,69,264	Bhavnagar
7.	Dahod	-	16,35,374	Dahod
8.	Dang	649	1,86,712	Ahwa
9.	Gandhinagar	1,764	13,34,731	Gandhinagar
10.	Jamnagar	14,125	18,16,029	Jamnagar
11.	Junagadh	10,607	24,48,427	Junagadh
12.	Kheda	7,194	20,23,354	Nadiad
13.	Kuchchh	45,652	15,26,331	Bhuj
14.	Mehsana	9,027	18,37,696	Mehsana
15.	Narmada	—	5,14,083	Rajpipla
16.	Navsari	—	12,29,250	Navsari
17.	Panchmahal	8,866	20,24,883	Godhara
18.	Patan	—	11,81,941	Patan
19.	Porbandar	—	5,36,854	Porbandar
20.	Rajkot	11,203	25,71,931	Rajkot
21.	Sabarkantha	7,390	20,83,416	Himatnagar
22.	Surat	7,657	49,96,391	Surat
23.	Surendranagar	10,489	15,15,147	Surendranagar
24.	Vadodara	7,794	36,39,775	Vadodara
25.	Valsad	5,244	14,10,680	Valsad

HARYANA

Area	: 44,212 sq km	Population	: 2,10,82,989
Capital	: Chandigarh	Principal Language	: Hindi

HISTORY AND GEOGRAPHY

Haryana has a proud history going back to the Vedic Age. The state was the home of the legendary Bharata dynasty, which has given the name *Bharat* to India. Haryana finds mention in the great epic of *Mahabharata*. Kurukshetra, the scene of the epic battle between the Kauravas and the Pandavas, is situated in Haryana. The state continued to play a leading part in the history of India till the advent of the Muslims and the rise of Delhi as the imperial capital of India. Thereafter, Haryana functioned as an adjunct to Delhi and practically remained anonymous till the First War of India's Independence in 1857. When the rebellion was crushed and the British administration was re-established, the Nawabs of Jhajjar and Bahadurgarh, Raja of Ballabgarh and Rao Tula Ram of Rewari of the Haryana region were deprived of their territories. Their territories were either merged with the British territories or handed over to the rulers of Patiala, Nabha and Jind. Haryana thus became a part of the Punjab province. With the reorganisation of Punjab on 1 November 1966, Haryana was made into a full-fledged state.

The state is bound by Uttar Pradesh in the east, Punjab in the west,

Himachal Pradesh in the north and Rajasthan in the south. National Capital Territory of Delhi juts into Haryana.

AGRICULTURE

Agriculture is the mainstay of more than 75 per cent population in Haryana. The quantum of foodgrains production, which was nearly 25.92 lakh tonnes at the time of inception of the State, is likely to touch 130.69 lakh tonnes in 2000-01. Rice, wheat, *jowar*, *bajra*, maize, barley and pulses, sugarcane, cotton, oilseeds and potato are the major crops of the State. Under the diversification of crops, more and more area is being brought under cash crops like sugarcane, cotton and oilseeds. New crops like sunflower, soyabean and fruits and vegetables are also being encouraged. Efforts are being made to encourage intensive and extensive farming in the State. The World Bank sanctioned a revised outlay of Rs 63.20 crore for the implementation of the Agricultural Human Resource Development (AHRD) project in Haryana from August 1995. Up to March 2001, Rs 5.15 crore have been spent out of Rs six crore earmarked for the State Agriculture Department. The project is scheduled to be completed by December 2001.

INFORMATION TECHNOLOGY

The Information Technology Department has set up a Centre for e-Governance. This centre is imparting training to officials. The Government has further taken initiative to spread IT education in the State by setting up computer franchise centres up to block level. A Cyber City has been proposed to be set up in Gurgaon and a Knowledge Park at Panchkula.

INDUSTRY

The State has made rapid strides in the industrial sector. Today it ranks first in the country in the production of cars, motor cycles, tractors, sanitary wares, pipes, gas stoves and scientific instruments. Panipat has earned the reputation of being the "Weaver City" of India for its exquisite, hand-tufted woollen carpets and colourful handloom products. Industries have provided employment to about seven lakh persons. At the end of 2000-01, there were 1,077 large and medium industries and 74,128 working small scale industrial units in the state. The annual export from Haryana in 1999-2000 was to the tune of Rs 4,892 crore.

Since economic liberalisation and delicensing policy of Government of India in 1991, 2,522 Industrial Entrepreneur Memoranda (IEM) have been filed by the entrepreneurs for setting up industrial units in Haryana catalysing an investment of Rs 27,522 crore. Of these, 1,365 IEM have been implemented. An Industrial Model Township is coming up near Manesar in Gurgaon. First phase of Growth Centre at Bawal (Rewari) has become operational while the land for another growth Centre at Saha (Ambala) has been acquired. Industrial estates have been developed at Sirsa, Bahri (Sonipat), Manakpur (Yamuna Nagar). New industrial estates are being developed at Bahadurgarh, Rai and Badli. Prestigious projects—Maruti Udyog, Hero-Honda have undertaken

their expansion programme in a big way. The capacity of Panipat Oil Refinery is being doubled by making additional investment of Rs 3,365 crore. A petrochemical complex is being set up at Panipat with an investment of Rs 4,228 crore.

IRRIGATION

Haryana is a beneficiary of the multi-purpose project in Sutlej and Beas, sharing benefits with Punjab and Rajasthan. Major irrigation projects are Western Yamuna Canal, Bhakhra Canal, and Gurgaon Canal system. Haryana has raised water from lower levels to higher and drier slopes. It is a new endeavour that gave practical shape to the lift irrigation for the first time in India.

The Jui, Siwani, Loharu and Jawahar Lal Nehru lift irrigation schemes have helped to carry irrigation water against gravity flow to arid areas. Sprinkler and Drip Irrigation have been introduced in the highly undulating and sandy tracts of Haryana. Rewari Lift Irrigation scheme is under execution, while the Mewat Lift Canal Scheme is under consideration of the government.

Construction work of Hathnikund Barrage at a cost of Rs 220 crore has been completed. The State of Haryana, Uttar Pradesh and Delhi would get an additional water for irrigation purposes from the barrage.

POWER

Haryana became the first State in the country to achieve 100 per cent rural electrification in 1970. Starting with 20,000 tubewells in 1966 there were over 3.61 lakh tubewells in March 2001. The average power availability during 2000-01 was 447 lakh units a day. The number of consumers in 2001 was 35 lakh. The installed generation capacity during 2000-01 was 3,124.50 MW.

TRANSPORT

Roads

In Haryana all villages stand connected with metalled roads. The length of roads in the State is 23,002 km.

Railways

Ambala, Panipat and Jakhal are important railway stations. There is a railway workshop at Jagadhari.

Aviation

There are civil aerodromes at Pinjore, Karnal, Hissar, Bhiwani and Narnaul.

TOURIST CENTRES

Haryana has a network of 43 Tourist Complexes in the State and caters to about 55 lakh tourists every year. Some of the important tourist complexes are: Blue Jay (Samalkha), Skylark (Panipat), Chakravarty Lake and Oasis (Uchana), Parakeet (Pipli), Kingfisher (Ambala), Magpie (Faridabad), Dabchick (Hodel), Shama (Gurgaon), Jungle Babbler (Dharuhera), Gauriyya

(Bahadurgarh), Myna (Rohtak), Blue Bird (Hissar), Red Bhishop (Panchkula) and Pinjore Gardens (Pinjore). Surajkund and Badkhal Lake near Delhi, Sultanpur bird sanctuary (Sultanpur, Gurgaon) and Damdama in Gurgaon and fascinating pocket of pines at Morni Hills are other attractions of tourist interest. The Surajkund Crafts Mela of international fame is held every year in the month of February.

GOVERNMENT

<i>Governor</i>	: Babu Permanand	<i>Chief Secretary</i>	: L.M. Goyal
<i>Chief Minister</i>	: O.P. Chautala	<i>Chief Justice</i>	: A.B. Saharya
<i>Speaker</i>	: Satbir Singh Kadian	<i>Jurisdiction of High Court</i>	: Punjab and Haryana High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.N.	District	Area (sq km)	Population	Headquarters
1.	Ambala	1,574	10,13,660	Ambala
2.	Bhiwani	4,778	14,24,554	Bhiwani
3.	Faridabad	2,151	21,93,276	Faridabad
4.	Fatehabad	2,520	8,06,158	Fatehabad
5.	Gurgaon	2,766	16,57,669	Gurgaon
6.	Hissar	3,983	15,36,417	Hissar
7.	Jhajjar	1,834	8,87,392	Jhajjar
8.	Jind	2,702	11,89,725	Jind
9.	Kaithal	2,317	9,45,631	Kaithal
10.	Karnal	2,538	12,74,843	Karnal
11.	Kurukshetra	1,530	8,28,120	Kurukshetra
12.	Mahendergarh	1,859	8,12,022	Narnaul
13.	Panchkula	898	4,69,210	Panchkula
14.	Panipat	1,268	9,67,338	Panipat
15.	Rewari	1,582	7,64,727	Rewari
16.	Rohtak	1,745	9,40,006	Rohtak
17.	Sirsa	4,277	11,11,012	Sirsa
18.	Sonipat	2,122	12,78,830	Sonipat
19.	Yamuna Nagar	1,768	9,82,369	Yamuna Nagar

HIMACHAL PRADESH

<i>Area</i>	: 55,673 sq km	<i>Population</i>	: 60,77,248
<i>Capital</i>	: Shimla	<i>Principal Languages</i>	: Hindi and Pahari

HISTORY AND GEOGRAPHY

The earliest known inhabitants of the region were tribals called *Dasas*. Later

Aryans came and they assimilated in the tribes. In the later centuries, the hill chieftains accepted the suzerainty of the Mauryan empire, the Kushans, the Guptas and Kanauj rulers. During the *Mughal* period, the *Rajas* of the hill states made some mutually agreed arrangements which governed their relations. In the 19th century, Ranjit Singh annexed/subjugated many of the states. When the British came, they defeated *Gorkhas* and entered into treaties with some *Rajas* and annexed the kingdoms of others. The situation more or less remained unchanged till 1947. After Independence, 30 princely states of the area were united and the present Himachal Pradesh was formed on 15 April 1948. With the reorganisation of Punjab on 1 November 1966 certain areas belonging to it were also included in Himachal Pradesh. On 25 January 1971 Himachal Pradesh was made a full-fledged State.

The State is bordered by Jammu and Kashmir on north, Punjab on west and south-west, Haryana on south, Uttaranchal on south-east and by Tibet on the east.

AGRICULTURE

Himachal Pradesh, a predominantly agro-pastoral economy has over three-fourth of its working population directly engaged in these sectors. Holdings are marginal with over 83.7 per cent farmers falling in small and marginal category and the net irrigated area accounts for one-fifth of the net sown area. Diverse agro-climatic conditions afford excellent opportunities for horticulture and cash crops. For the development of horticulture activities, a provision of Rs 16.54 crore has been made for 2001-02. Fruit production in the State has crossed the 0.84 lakh tonnes mark. The foodgrains production during 2000-01 was 1,631.5 lakh tonnes and vegetable production 5.8 lakh tonnes. Large-scale expansion of mushroom cultivation has been undertaken. Apart from the largest fruit-processing plant having been commissioned, a corrugated card-board carton factory has also been established for packing fruits and vegetables. Forests cover 37,016 sq km and form 66.5 per cent of the total geographical area.

INDUSTRIES

The State has made significant achievements in the field of industrialisation. At present, there are 182 medium and large scale industries and about 28,500 small scale industries with an investment of Rs 2,792 crore and providing employment to 1.49 lakh persons. The annual turnover is approximately Rs 4,500 crore. The entrepreneurs are no longer required to obtain the approval of the Government for setting up of units in medium and large scale sector. During 2000-01 (up to December), 11 projects with an investment of Rs 82.47 crore in medium and large scale sector were granted registration. In order to provide infrastructural facilities to the entrepreneurs industrial areas/estates are being developed in the State.

The important minerals in the state are limestone, rock-salt, gypsum, silica, sand and baryte. About 300 mineral based industries like stone crushers,

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mini-cement plant, hydrated lime units, calcium carbonate units, limestone power units, etc., have been established. There are three big cement plants already in the state.

IRRIGATION

Irrigation potential of the State is approximately 3.35 lakh hectares. Out of this 0.50 lakh hectares can be brought under irrigation through major and medium irrigation projects and the remaining area through minor irrigation schemes. Shahnehar Project in Kangra district the only major irrigation project in the State will irrigate 15,287 hectares. Since the Fifth Plan four medium projects—Giri Irrigation Project, Balh Valley Project, Bhabour Sahib Phase-I and the Bhabour Sahib Phase-II—creating a Culturable Command Area (CCA) of 11,236 hectares have been completed.

During 2000-01, Rs 1,490.30 lakh have been provided to bring 200 hectares under major/medium irrigation. It is proposed to cover 300 hectares of area with an outlay of Rs 1,516.50 lakh during 2001-02. It is proposed to bring 1,800 hectares under minor irrigation with an outlay of Rs 5,229.51 lakh during 2001-02. An outlay of Rs 834.12 lakh has been proposed to protect 500 hectares of land from flood during 2001-02.

POWER

It has been estimated that about 20,300 MW of hydel power can be generated in the State by constructing various major, medium, small and mini/micro hydel projects on the five river basins. Hydel power generation in the State has been accorded top priority from the Sixth Plan onwards. All the inhabited villages of the State, were electrified by the end of June 1988.

The foundation stones were laid of 300 MW Chamara II Hydel Project in June 1999, of 2051 MW Parbati Hydel Power Project in December 1999, and of 800 MW Kol Dam project in June 2000. Other major ongoing projects are: Bhaba Augmentation Scheme, Ghanvi Hydro Electric Project (22.5 MW), Larji Hydel Project (126 MW) and Khauli Hydro Electric Project (12 MW). The State government has given eight hydel projects for private sector participation. These are: Baspa Hydro Electric Project (300 MW); Holi Hydro Electric Project (231 MW), Dhamwari Sunda Hydro Electric Project (70 MW), Karcham Wangto Hydro Electric Project (1000 MW), Neogal Hydro Electric Project (15 MW), Allian Duhangan Hydro Electric Project (192 MW), Swara-Kuddu (162 MW) and Budhil (70 MW).

TRANSPORT

Roads

The total road length in the state was 21,935 km as on 31 March 2000. It has eight national highways with a length of 1,279 km.

Railways

The State has two narrow gauge railway lines connecting Pathankot with Joginder Nagar and Kalka with Shimla and one broad-gauge railway line from Nangaldam to Una.

Aviation

The State has three airports at Bhuntar (Kullu Valley), Jubbarhatti (Shimla) and Gaggal (Kangra). In addition 35 helipads are available for operation in the State. The Government has decided to construct helipads at Banjararoo, Satrundi, and Khundi-Murahal in Chamba.

TOURIST CENTRES

Main tourist complexes are Shimla, Palampur, Dharamsala, Kullu-Manali, Chamba-Dalhousie. Temples at Bhima Kali, Sarahan, Hatkoti, Jwalajee, Chamunda Devi, Chintpurni, Renuka and Rewalsar, Deoth Siddh and Naina Devi are major attractions for pilgrims. Tourist complexes are also being set up at Keylong, Kaza, Sangla, Shoja, Kalpa, Khadralla, Kharapathar, Chindi, Bharmour, Chansal and Naggar castle. Hang-gliding competitions are held in Kangra valley. Solang Nallah slopes are getting popular for winter sports. There is an art gallery in Naggar and museums in Chamba, Shimla and Dharamsala. The beautiful tourist resort of Khajjair in Chamba district has been christened as the Switzerland of Himachal Pradesh.

GOVERNMENT

<i>Governor</i>	: Suraj Bhan	<i>Chief Secretary</i>	: Harsh Gupta
<i>Chief Minister</i>	: Prem Kumar Dhumal	<i>Jurisdiction of</i>	: Himachal Pradesh
<i>Speaker</i>	: Gulab Singh Thakur	<i>High Court</i>	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population (1991 Census)	Headquarters
1.	Bilaspur	1,167	2,95,387	Bilaspur
2.	Chamba	6,528	3,93,286	Chamba
3.	Hamirpur	1,118	3,69,128	Hamirpur
4.	Kangra	5,739	11,74,072	Dharamshala
5.	Kinnaur	6,401	71,270	Reckong Peo
6.	Kullu	5,503	3,02,432	Kullu
7.	Lahaul and Spiti	13,835	31,294	Keylong
8.	Mandi	3,950	7,76,372	Mandi
9.	Shimla	5,131	6,17,404	Shimla
10.	Sirmaur	2,825	3,79,695	Nahan
11.	Solan	1,936	3,82,268	Solan
12.	Una	1,540	3,78,269	Una

¹ Includes 78,114 sq km under illegal occupation of Pakistan, 5,180 sq km illegally handed over by Pakistan to China and 37,555 sq km under illegal occupation of China.

² The population figure excludes population of areas under unlawful occupation of Pakistan and China where census could not be taken.

JAMMU AND KASHMIR

Area	: 2,22,236 ¹ sq km	Population	: 1,00,69,917 ²
Capital	: Srinagar (Summer) Jammu (Winter)	Principal Languages	: Urdu, Kashmiri, Dogri, Pahari, Balti, Ladakhi, Punjabi, Gujri and Dadri

HISTORY AND GEOGRAPHY

According to a legend in *Rajtarangini* and *Nilmat Purana*, Kashmir was once a large lake. Kashyap *Rishi* drained off the water, making it an abode. But geologists have their own theory which says that geographical changes made way for the outflow of water by subsidence of the mountain at Khadianayar, Baramula. Thus emerged the Valley of Kashmir, the paradise on earth. Ashoka introduced Buddhism to Kashmir in the 3rd century BC which was later strengthened by Kanishka. Huns got the control of the Valley in the early 6th century. The Valley regained freedom in 530 AD but soon came under the rule of the Ujjain empire. After the decline of the Vikramaditya dynasty, the Valley had its own rulers. There was a synthesis of Hindu and Buddhist cultures. Lalitaditya (697-738 AD) who extended his rule up to Bengal in the east, Konkan in the south, Turkistan in the north-west and Tibet in the north-east was the most famous Hindu ruler. Lalitaditya was famous for constructing buildings. Islam came to Kashmir during 13th and 14th century AD. Zain-ul-Abedin (1420-70) was the most famous Muslim ruler, who came to Kashmir when the Hindu king Sinha Dev fled before the Tatar invasion. Later Chaks overran Haider Shah son of Zain-ul-Abedin, they continued to rule till 1586 when Akbar conquered Kashmir. In 1752, Kashmir passed on from the feeble control of the Mughal emperor of the time to Ahmed Shah Abdali of Afghanistan. The Valley was ruled by the Pathans for 67 years.

Jammu has also been mentioned in the *Mahabharata*. Two recent finds of Harappan remains and artifacts of Mauryan, Kushan and Gupta periods at Akhnoor have added new dimensions to its ancient character. The land of Jammu was divided into 22 hill principalities. Raja Maldev, one of the Dogra rulers conquered many territories to consolidate his kingdom. Raja Ranjit Dev ruled over Jammu from 1733 to 1782. His successors were weak and thus Maharaja Ranjit Singh annexed the territory to Punjab. He later handed over Jammu to Raja Gulab Singh, a scion of the old Dogra ruling family, who had grown powerful among Ranjit Singh's governors and had annexed almost the whole Jammu region. The State was governed by Dogra rulers till 1947 when the Maharaja Hari Singh signed the Instrument of Accession in favour of Indian Union on 26 October 1947.

Jammu and Kashmir State is situated between 32° 17' and 36° 58' north latitude and 73° 26' and 83° 30' east longitude. Geographically, the State can be divided into four zones. First, the mountainous and semi mountainous plain commonly known as Kandi belt, the second, hills including Siwalik ranges, the third, mountains of Kashmir Valley and Pir Panchal range and the fourth is Tibetan tract of Ladakh and Kargil.

INDUSTRY

Handicrafts, being the traditional industry of the State has been receiving top priority in view of its large employment potential and also demand for handicraft goods both within and outside the country. Handicrafts production includes mainly paper-machine, wood carving, carpets, shawl-making, embroidery, etc. This industry particularly in carpets earns substantial foreign exchange. During 2000-01 handicrafts production increased by 3 per cent, but the annual handicraft export decreased from Rs 577 crore during 1999-2000 to Rs 440 crore. Employment in the carpet craft rose to 92,000 artisans.

Handloom Development Corporation is producing woollen items like tweed, blazer, blankets, shawls, *dhusas*, Kani shawl, etc. According to a survey in 1997, the number of handloom weavers in the State was estimated at 36,827. Thereafter, the number of weavers is estimated to have risen annually by 710.

An Export Promotion Industrial Park is under execution at Kartholi. A Rs 9.76 crore, Food Park is being set up at Khunmoh. Nine industrial projects worth Rs 125.50 crore are also being set up.

AGRICULTURE

About 80 per cent of the population of the State depends on agriculture. Paddy, wheat and maize are the major crops. Barely, *bajra* and *jowar* are cultivated in some parts. Gram is grown in Ladakh. The foodgrains production during 1999-2000 was 13.29 lakh tonnes. About 4.85 lakh families are engaged directly or indirectly in horticulture activities. The area under orchards is 51,380 hectare. The number of polygreen houses set up is 37,000.

IRRIGATION AND POWER

A provision of Rs 268 crore was made for irrigation and flood control in the State during the Ninth Plan. The area irrigated was 4.38 lakh hectare by 1999-2000.

The Ninth Plan outlay for power sector was Rs 2,391.30 crore. Out of 6,477 inhabited villages, 6,285 villages were electrified up to 2000-01. The installed power capacity in 2000-01 was 431.36 MW. Work of 450 MW Baghliar Hydel Project has been allotted to an international consortium. Three other major projects—330 MW Kishenganga, 280 MW Uri-II and 120 MW Sewa-II will be taken up for extension in the State sector.

TRANSPORT

Roads

The road length maintained by PWD in the State was 13,659 km in March 2001.

Railways

At present rail system extends only up to Jammu. Work on Jammu-Udhampur railway line is in progress. Survey works for extension of railway line from Udhampur to Srinagar has been approved. The survey has commenced.

Aviation

Srinagar, Jammu and Leh are major airports connecting Jammu and Kashmir with other parts of the country.

TOURIST CENTRES

Kashmir Valley is described as the paradise on earth. Chashma Shahi springs, Shalimar Bagh, Dal Lake, etc., in Srinagar; Gulmarg, Pahalgam, Sonamarg, etc., in the Valley; Vaishno Devi temple and Patnitop near Jammu are important tourist centres. In 2000, 1.12 lakh tourists visited Kashmir Valley. The number of pilgrims visiting Amarnath shrine in Kashmir went up to 1.73 lakh in 2000.

FESTIVALS

On the tenth day of the bright fortnight *Assuj* is celebrated as the day of victory of Rama over Ravana. *Shivratri* festival is also celebrated in Jammu and Kashmir. Four Muslim festivals celebrated in the State are *Id-ul-Fitr*, *Id-ul-Zuha*, *Id-ul-Milad-ul-Nabi* and *Miraj Alam*. *Muharram* is also observed. The *Hemis Gumpa* festival of Ladakh is internationally known which takes place in the month of June. A special feature of the *Hemis* festival is its mask dance. In Spituk monastery in Leh, enormous statues of Goddess *Kali* are exhibited once in the year on the occasion of the annual festival which falls in January. Other festivals celebrated are *Lohri* marking a climax of winter; *Singh Sankranti* observed in Ramban and adjoining villages; *Mela Pat* observed in Bhaderwah and Kishtwar in the month of *Chaitra*.

GOVERNMENT

Governor	: G.C. Saxena	Chief Secretary	: Ashok Jaitley
Chief Minister	: Dr Farooq Abdullah	Chief Justice	: Hetoi Ketoi Sema
Speaker	: Abdul Ahad Vakil	Jurisdiction of High Court	: Jammu, Kashmir and Ladakh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km) (Estimated)	Population	Headquarters
1.	Anantnag	3,984	11,70,013	Anantnag
2.	Badgam	1,371	6,32,338	Badgam
3.	Baramulla	4,588	11,66,772	Baramulla
4.	Doda	11,691	6,90,474	Doda
5.	Jammu	3,097	15,71,911	Jammu
6.	Kargil	14,036	1,15,227	Kargil
7.	Kathua	2,651	5,44,206	Kathua
8.	Kupwara	2,379	6,40,013	Kupwara
9.	Leh	82,665 ¹	1,17,637	Leh
10.	Pulwama	1,398	6,48,762	Pulwama
11.	Poonch	1,674	3,71,561	Poonch
12.	Rajouri	2,630	4,78,595	Rajouri

13.	Srinagar 2,228	11,83,493	Srinagar	
14.	Udhampur	4,550	7,38,965	Udhampur

¹ Includes 37,555 sq km under illegal occupation of China.

JHARKHAND

<i>Area</i>	: 79,714 sq km	<i>Population</i>	: 2,69,09,428
<i>Capital</i>	: Ranchi	<i>Principal Language</i>	: Hindi

HISTORY AND GEOGRAPHY

Jharkhand which came into being on 15 November 2000 as the 28th State of the Union is the homeland of the tribals for which they had been dreaming for centuries. According to legend, Raja Jai Singh Deo of Orissa had declared himself the ruler of Jharkhand in the 13th century. It largely comprises forest tracks of Chhotanagpur plateau and Santhal Pargana and has distinct cultural traditions. In post-Independence era, the Jharkhand Mukti Morcha started a regular agitation which impelled the government to establish the Jharkhand Area Autonomous Council in 1995 and finally a full-fledged State.

Jharkhand is bounded by West Bengal in the east, Uttar Pradesh and Chhattisgarh in the west, Bihar in the north and Orissa in the south.

AGRICULTURE

Principal foodgrains crops are paddy, wheat, maize and pulses.

INDUSTRY AND MINERALS

Jharkhand has the country's two biggest steel plants at Bokaro in the public sector and Tata Iron and Steel Company (TISCO) in Jamshedpur in the private sector. Other important industries are Tata Engineering and Locomotive Company, Sriram Bearings, Usha Martin, Indian Tube Company, etc. The State is abundantly rich in minerals—copper, coal, iron, manganese, mica, chromite, bauxite, etc., and has the potential of becoming one of the most prosperous states of India.

POWER

The installed capacity of power in Jharkhand is 2,590 MW. This includes 420 MW (Tenughat Thermal Power Station), 840 MW (Patratu Thermal Power Station), 130 MW (Sikkidri Hydel) and 1,200 MW (DVC, Thermal/Hydel). The prospects of capacity addition in both the thermal and hydel sectors of various power stations is 4,736 MW. This includes 686 MW hydel generation.

To provide electricity to all villages and rural areas, the State government has made a provision of Rs 30 crore during 2001-02.

TRANSPORT

Roads

The total length of roads in the State is 4,311 km. This includes 1,600 km national highways and 2,711 km state highways.

Railways

The state has a well-developed railway system. Ranchi, Bokaro, Dhanbad, Jamshedpur are some of the major railway stations.

Aviation

Ranchi is connected with Delhi, Patna and Mumbai. Jamshedpur, Bokaro, Giridih, Deoghar, Hazaribagh, Daltonganj and Noamundi have air strips.

TOURIST CENTRES

There are many scenic attractions, waterfalls, temples, hillocks scattered around Ranchi. Hundru, Hirni, Dosna and Dasam are the waterfalls. Other places are Chaibasa, Deoghar, Dumka (centres of pilgrimage), Belta (Palamu National Park), Hazaribagh (Wildlife reserve), Dalma Wildlife Sanctuary, etc.

GOVERNMENT

Governor	: Prabhat Kumar	Chief Secretary	: V.S. Dubey
Chief Minister	: Babulal Marandi	Jurisdiction of High Court	: Jharkhand

Name of the districts : Ranchi, Gumla, Lohardaga, Palamau, Garhwa, Dhanbad, Bokaro, Hazaribagh, Chatra, Giridih, Kodarma, East Singhbhum, West Singhbhum, Dumka, Deoghar, Godda, Pakur and Sahebganj.

KARNATAKA

Area	: 1,91,791 sq km	Population	: 5,27,33,958
Capital	: Bangalore	Principal Language	: Kannada

HISTORY AND GEOGRAPHY

Karnataka has a written history of more than 2,000 years. Apart from its subjection to the rule of the Nandas, Mauryas, and the Shatavahanas, Karnataka came to have indigenous dynasties like the Kadambas of Banavasi and the Gangas from the middle of the 4th century AD. Gomateshwara monolith at Sharavanabelagola was installed by a Ganga minister Chavundaraya. The Chalukyas of Badami (500-735 AD) ruled over a wider area, from the Narmada to the Kaveri from the days of Pulikeshi II (609-642 AD) who even defeated Harshavardhana of Kanauj. This dynasty created fine monuments at Badami, Aihole and Pattadakal, both structural and rock-cut. Aihole has been one of the cradles of temple architecture in the country. The Rashtrakutas (753-973 AD) of Malkhed who succeeded them levied tribute on the rulers of Kanauj successively in the so-called 'Age of Imperial Kanauj'. Kannada literature developed during this period. Outstanding Jain scholars of India lived in their court. The Chalukyas of Kalyana (973 to 1189 AD) and their feudatories, the Hoysalas of Halebidu built fine temples, encouraged

literature and fine arts. Noted jurist Vijnaneshwara (work: *Mitakshara*) lived at Kalyana. Great religious leader Basaveshwara was a minister at Kalyana. Vijayanagar empire (1336-1646) fostered indigenous traditions and encouraged arts, religion and literature in Sanskrit, Kannada, Telugu and Tamil. Overseas trade flourished. The Bahamani Sultans (Capital: Gulbarga, later Bidar) and the Bijapur Adilshahis raised fine Indo-Saracenic buildings and encouraged Urdu and Persian literature. Advent of the Portuguese resulted in the introduction of new crops (tobacco, maize, chillies, groundnut, potato, etc.). After the fall of the Peshwa (1818) and Tipu (1799), Karnataka came under the British. Christian missionaries introduced English education and printing during the 19th century. Revolution in transport, communication and industries was evidenced. The urban middle-class emerged. Mysore dynasty helped industrialisation and cultural growth. Freedom Movement was followed by the movement for the unification of Karnataka. After Independence, the new united Mysore State was created in 1956 and was renamed Karnataka in 1973.

Karnataka lies to the south of Goa and Maharashtra, to the west of Andhra Pradesh, to the west of Tamil Nadu and to the north of Kerala. It has a sea-coast of nearly 400 km (300 km with inundations).

AGRICULTURE

Agriculture and allied activities account for nearly 65 per cent of the work force in the State. Out of the geographical area of 1,90,49,836 hectares, 1,25,92,509 hectares is cultivable land. Major food crops are paddy, *jowar*, *bajra*, *ragi*, maize, wheat and pulses. The State stands seventh in oilseeds production in the country.

Horticultural crops are grown in an area of 18 lakh hectares with an annual production of 124 lakh tonnes valued at Rs 6,000 crore. The area under forests is 30,62,769 hectares which constitutes about 16.08 per cent of the total geographical area. The State has constituted five national parks and 21 wildlife sanctuaries to conserve wildlife in general and endangered species in particular. Two project Tigers—one in Bandipur National Park and another at Bhadra wildlife sanctuary have been created to preserve the endangered tiger population.

IRRIGATION AND POWER

Karnataka has the basins of the Krishna, Cauvery, Godavari, North Pennar, South Pennar, Palar and west flowing rivers basins with a drainage area of 2,600 sq km. The average annual yield of the rivers has been estimated as 97,352 cum. The ultimate irrigation potential of the State from all sources has been estimated at about 55 lakh hectares consisting of 35 lakh hectares under major and medium, 10 lakh hectares under minor irrigation (surface) project and 10 lakh hectares under groundwater resources. Important power projects are the Kalinadi Stage-I and Stage-II, Sharavathi and Gerusoppa (Varahi) and Shivasamudram Hydro Electric Projects. The State has a thermal power station at Raichur and another diesel unit at Yelahanka near Bangalore. An Atomic

States and Union Territories

Power Plant is being installed at Kaiga near Karwar. All villages in the State had been electrified by March 1989.

INDUSTRY

Karnataka contributes four per cent of the National production in the industrial sector, and 20 per cent to the State income. Public sector undertakings include Bharat Earth Movers, Bharat Electronics, Bharat Heavy Electricals, Hindustan Aeronautics Limited, Hindustan Machine Tools, Indian Telephone Industries, Wheel and Axle, New Government Electric Factory and Mangalore Chemicals and Fertilizers. There are a number of factories under joint and private sectors and also small scale industries. Some of the manufactured items include aircraft, rail coaches, telephone instruments, electronic and telecommunication equipments, glass, batteries, spark plugs, electric motors, textiles, silk, sandal oil, electrical goods, porcelain, sugar, caustic soda, paper including newsprint, capacitors, mining metal tools, cement, motor cycles, fertilizers, etc. The Visveswaraiiah Iron and Steel Limited, Bhadravati now owned by SAIL produces special steel, alloy and ferro silicon with a rated capacity of Iron-11,097, Manganese-1,34,585, Copper-87,802 (in tonnes); Gold-429 kg and Silver-380 kg per year. Another important project of the State is the Kudremukh Iron Ore Project at Malleshwara in Chikmagalur district. There are about 9,780 large and medium industries in the State with an investment of Rs 15,65,454 crore providing employment to about 8,68,932 persons. There are more than 2.23 lakh small scale industrial units with an investment of Rs 2,800 crore providing employment to nearly 14 lakh persons. Karnataka stands first in the production of electronic equipment and raw silk. The State is famous for its sandal soap and sandal wood oil.

MINERALS

The State is rich in mineral resources. Important minerals are high grade iron ore, copper, manganese, chromite, china clay, limestone and magnesite. Karnataka has the distinction of being the main gold producing State in the country. It is the sole producer of Felsite and leading producer of moulding sand and Fuchsite Quartzite. The State has rich deposits of granite.

INFORMATION TECHNOLOGY

Karnataka—the Silicon State is the most favoured destination for IT and other knowledge based industries. The State has the most investor friendly policy. Recently the State announced "Mahiti", the millennium IT policy. The State has taken major initiatives in the e-governance area and plans to computerise all treasuries. 19 million land records that indicate the ownership of six million farmers have been computerised. The State has simplified labour laws for IT firms and has announced a wide range of incentives for IT parks. The State plans to network all the 77 engineering colleges, have IT in 300 colleges, 150 ITIs, 100 polytechnics and 1,000 schools. Karnataka accounts for 1/3rd of the total software exports from India.

TRANSPORT

Roads

Karnataka had 1,17,972 km (1997-98) of motorable roads including 2,355 km of national highways. The surfaced road length with 0.97 lakh km constituted 68 per cent of the total road length.

Railways

Rail network in Karnataka is 3,270 km which includes broad gauge (2,706 km), metre gauge (564 km). Nearly 300 km is under conversion.

Aviation

Bangalore, Belgaum, Mangalore and Hubli are the main airports. Direct flight facilities to major cities of India are available from Bangalore.

Ports

New Mangalore port is the main all-weather seaport in Karnataka which mainly handles cargo vessels. Special facilities for export of Kudremukh iron ore and to handle crude, coal, LPG, etc., were developed with Sea Bird project of the Indian Navy coming up near Karwar.

TOURIST CENTRES

Tourist attractions in the State are many in Bangalore with a variety of parks and industries; the former princely capital Mysore with the Brindavan Gardens and Srirangapattana nearby; Sharavanabelagola where the famous monolithic statue of Gomateshwara, 57 ft high stands; Belur, Halebidu and Somnathpura with the famous Hoysala monuments; Badami, Aihole and Pattadakal for the 1,300 year old rock-cut and structural temples; Hampi, the famous open air museum (ancient Vijayanagar); Gulbarga, Bidar and Bijapur, renowned for their Indo-saracenic monuments; Mangalore and Karwar for ports and beaches; Gokarna, Udupi; Dharmashala, Melkote, Gangapura and Saundatti, are famous pilgrimage centres Tourism department has identified 212 tourist spots in the State. The capital city of Bangalore is also a tourist attraction with its famous huge granite structure *Vidhana Soudha* and the beautiful Cubbon Park and Lalbhag.

GOVERNMENT

Governor : V.S. Rama Devi

Chief Secretary : Smt Teresa Bhattacharya

Chief Minister : S.M. Krishna

Chief Justice : P.V. Reddy

Jurisdiction of : Karnataka State
High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Bagalkot	6,594	13,94,542	Bagalkot
2.	Bangalore	2,190	48,39,162	Bangalore
3.	Bangalore Rural	5,815	16,73,194	Bangalore
4.	Belgaum	13,415	35,83,606	Belgaum
5.	Bellary	8,419	16,56,000	Bellary
6.	Bidar	5,448	12,55,798	Bidar
7.	Bijapur	10,475	15,33,448	Bijapur
8.	Chamarajanagar	5,685	8,83,365	Chamarajanagar
9.	Chikmagalur	7,201	10,17,283	Chikmagalur
10.	Chitradurga	8,388	13,12,717	Chitradurga
11.	Dakshina Kannada	4,843	16,33,392	Mangalore
12.	Davanagere	6,018	15,59,222	Davanagere
13.	Dharwad	4,230	13,74,895	Dharwad
14.	Gadag	4,657	8,59,042	Gadag
15.	Gulbarga	16,224	25,82,169	Gulbarga
16.	Hassan	6,814	15,69,684	Hassan
17.	Haveri	4,851	12,69,213	Haveri
18.	Kodagu	4,102	4,88,455	Madikere
19.	Kolar	8,223	22,16,889	Kolar
20.	Koppal	8,458	9,58,078	Koppal
21.	Mandya	4,961	16,44,374	Mandya
22.	Mysore	6,269	22,81,653	Mysore
23.	Raichur	5,559	13,51,809	Raichur
24.	Shimoga	8,465	14,52,259	Shimoga
25.	Tumkur	10,598	23,05,819	Tumkur
26.	Udupi	3,598	10,60,872	Udupi
27.	Uttara Kannada	10,291	12,20,260	Karwar

KERALA

Area	: 38,863 sq km	Population	: 3,18,38,619
Capital	: Thiruvananthapuram	Principal Language	: Malayalam

HISTORY AND GEOGRAPHY

To a large extent the ancient history of Kerala is shrouded in the mists of tradition. The most popular legend is that Kerala was raised from the depths of the ocean. Parasurama, one of the incarnations of Vishnu had waged an epic series of vengeful wars on the *Kshatriyas*. A time came, when Parasurama was struck by remorse at the wanton annihilation he had wrought. He offered severe penance atop the mountain heights. In a mood of profound atonement, the sage heaved his mighty axe into the midst of the distant ocean. Waves foamed and frothed as a crescent-shaped stretch of land extending from Gokarnam to Kanyakumari surfaced from the depths of the sea.

Kerala's culture has been an integral part of the mainstream of Indian culture. Its history is the story synthesis, assimilation and fusion of old traditions and new values in every sphere of human thought and activity. In between the high western ghats on the east and the Arabian sea on the west, the width of the State varies from 35 km to 120 km. According to the geographical features, the State can be divided into hills and valleys, midland plains and coastal belt.

AGRICULTURE

About 50 per cent of the population depends upon agriculture. A unique feature of the State is the predominance of cash crops. Kerala is a major producer of coconut, rubber, pepper, cardamom, ginger, cocoa, cashew, arecanut, coffee and tea. Tree spices like nutmeg, cinnamon, cloves, etc., are also cultivated. Rice and tapioca are important food crops. Coconut is the most important cash crop of Kerala. Different varieties of plantain, banana, pineapple, mango and jackfruit are major fruit crops. Kerala is not self-sufficient in food production. The State had a gross cropped area of 3.50 lakh hectares under paddy cultivation during 1999-2000. Kerala's share in the coconut production is 41 per cent in the country. The State accounts for more than 86 per cent under coffee and 9 per cent under tea. The area under rubber in the State during 1997-98 was 4.63 lakh hectares.

Production of non-food crops like ginger, pepper, coffee, cashew generally was not encouraging. The major crops which recorded increases in production were arecanut from 13.595 million nuts to 16,014 million nuts, tea from 68,373 tonnes to 71,295 tonnes and Rubber from 5.59 lakh tonnes to 5.73 lakh tonnes.

INDUSTRY

Kerala is rich in industrial potentialities and infrastructure facilities such as hydro-electric power, rich forests, rare minerals like ilmenite and monozite and the efficient system of transport and communications. Traditional industries are handloom, cashew, coir and handicrafts. Other important industries are rubber, tea, ceramics, electric and electronic appliances, telephone

cables, transformers, bricks and tiles, drugs and chemicals, general engineering, plywood splints and veneers, *beedi* and cigar, soaps, oils, fertilizers and Khadi and village industry products. A number of manufacturing units have also sprung-up for production of precision instruments, machine tools, petroleum and petroleum products, paints, pulp paper, newsprint, glass and non-ferrous metals. Principal export products are cashewnut, tea, coffee, spices, lemongrass oil, sea foods, rose wood and coir. The State has an abundance of important minerals like ilmenite, rutile, monazite, zircon, sillimanite, clay and quartz sand.

With financial support of Keala State Industrial Development Corporation (KSIDC), 42 projects involving an investment of Rs 243 crore on large and medium industries were commissioned in 1999-2000. Another 72 projects costing Rs 1,506 crore were under various stages of implementation. KSIDC signed MoU for establishing 40 projects with private sector firms at a total investment of Rs 897 crore.

There are 110 public sector undertakings in the State. Twenty seven Software Technology Parks of India are running complexes in Thiruvananthapuram with 17 units functioning under its umbrella directly and three other units in private premises, all engaged primarily in the export of computer software. Thirty one companies with a total capital investment of Rs 6,545 lakh are functioning at Techno Park, Thiruvananthapuram. Nearly 1,91,670 persons are employed in the Khadi and vilalge industries sector in the State.

IRRIGATION AND POWER

The irrigation system in Kerala is serviced through major, medium and minor irrigation as well as groundwater and command area development programmes. Major irrigation projects are Malampuzha, Chalakkudy, Peechi, Pamba, Periyar, Chittoorpuzha, Kuttiyadi, Neyyar and Chimmuni. The medium projects are Pothundy, Gayathri, Valayar, Vazhani, Mangalam and Cheerakuzhi. Construction works of seven major irrigation projects—Kallada, Pazhassi, Muvattupuzha, Idamalayar, Karappara-Kuriarkutty, Chaliar and Kanjirappuzha are in progress. Investment made up to March 2000 on irrigation sector in the State aggregates to Rs 27,357 crore. The installed capacity in the State was 2,522 MW as on January 2001.

TRANSPORT

Roads

The length of roads in the State is 2,19,805 km. The national highways that pass through the State are NH 17 and NH 49 with a total length of 1,011 km.

Railways

The State has a total railway route length of 1,050 km and covers 13 railway routes. It has 933 km of broad gauge lines and 117 km of meter gauge lines.

Aviation

There are three airports, *viz.*, Thiruvananthapuram, Kochi and Kozhikode of which the first two are international airports.

Ports

Among 16 ports, Kochi is the only major port in the State. There are three intermediate ports and 12 minor ports.

FESTIVALS

Kerala is the home of many colourful festivals. Most of them have a religious fervour inspired by Hindu mythology. *Onam* is the most typical Kerala festivals which has now earned an all-India character. It coincides with harvest season and is an occasion of spontaneous revelry. *Onam* celebrates the home-coming of Mahabali, legendary king, who ruled over Kerala in an age of plenty but was pushed down to infernal regions by *Vishnu* in the form of *Vamana*. It is now celebrated as a national festival under government auspices. *Visu* is another festival celebrated on astronomical New Year Day. *Navarathri* is celebrated as *Saraswathi Pooja* in Kerala. *Mahashivarathri* is celebrated on the banks of Periyar river as a spectacular festival which is compared to *Kumbha Mela*. The 41-day festival which coincides with *Makaravilakku* in Sabarimala Ayyappan temple attracts lakhs of people from India and abroad. The *Vallamkali* or boat race is typical of Kerala and except Nehru Trophy Boat Race conducted in the Punnamada Lake, all the boat festivals have a religious origin. Vadakkumnnatha temple at Thrissur celebrates *Pooram* festival in April every year with an impressive procession of caparisoned elephants and display of unparalleled pyrotechnics. Main Christian festivals are Christmas and Easter. Maramom convention held every year on the Pumba river bed is the biggest gathering of Christians in Asia. The Muslims celebrate *Bakrid*, *Ramzan* and *Muharram* in addition to *Jarram* and *Nercha* festivals.

TOURIST CENTRES

Kerala has the most attractive wildlife sanctuaries at Thekkady on the banks of river Periyar, at Parambikulam in Palakkad district and at Mananthavady, Sultan Batheri and at Wayanad. Kovalam is a renowned seaside resort. Padmanabaswami temple in Thiruvananthapuram is an exquisite specimen of South Indian architecture. Sabarimala temple of Lord Ayyappa is a famous pilgrim tourist centre in Pathanamthitta district. Thiruvananthapuram is an abode of temples, mosques and churches. Veli lagoon Neyyar dam and Ponmudi the famous hill stations are the other tourist centres in and around Thiruvananthapuram. Veli provides boat-ride facilities. Kalady the birthplace of Adi Sankara, Lord Krishna Temple at Guruvayoor, Bachel beach (Kasaragode), Malampuzha at Palakkad, Pookkode lake, Kurvadweep, Pakshipathalam and Edakkal caves in Wayanad are notable tourist centres. Munnar and Peermade are the two famous hill resorts of Kerala. Back-water

tourism also is fast growing in the State. The famous Kathakali centre, Kalamandalam in Thrissur district, is a place of interest for lovers of the performing arts. The total number of tourists including domestic arrivals in the state in 1999 stood at 50.90 lakh, of which the foreign tourists were 2.20 lakh.

GOVERNMENT

<i>Governor</i>	: Justice Sukhdev Singh Kang	<i>Chief Secretary</i>	: V. Krishnamoorthy
<i>Chief Minister</i>	: A.K. Antony	<i>Chief Justice</i>	: K.K. Usha
<i>Speaker</i>	: Vakkom Puroshothaman	<i>Jurisdiction of High Court</i>	: Kerala and Lakshadweep

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population (1991 Census)	Headquarters
1.	Alappuzha	1,414	20,01,217	Alappuzha
2.	Ernakulam	2,407	28,17,236	Ernakulam
3.	Idukki	5,019	10,78,006	Painavu
4.	Kannur	2,996	22,51,727	Kannur
5.	Kasaragode	4,992	10,71,508	Kasaragode
6.	Kollam	2,491	24,07,566	Kollam
7.	Kottayam	2,203	18,28,271	Kottayam
8.	Kozhikode	2,345	26,19,941	Kozhikode
9.	Malappuram	3,550	30,96,330	Malappuram
10.	Palakkad	4,480	23,82,235	Palakkad
11.	Pathanamthitta	2,642	11,88,352	Pathanamthitta
12.	Thiruvananthapuram	2,192	29,46,650	Thiruvananthapuram
13.	Thrissur	3,032	27,37,311	Thrissur
14.	Wayanad	2,132	6,72,128	Kalpetta

MADHYA PRADESH

<i>Area</i>	: 3,08,000 sq km	<i>Population</i>	: 6,03,85,118
<i>Capital</i>	: Bhopal	<i>Principal Language</i>	: Hindi

HISTORY AND GEOGRAPHY

The undivided Madhya Pradesh was founded on 1 November 1956. Madhya Pradesh, in its present form, came into existence on 1 November 2000 following its bifurcation to create a new state of Chhattisgarh.

Because of its central location in India, Madhya Pradesh has remained a crucible of historical currents from north, south, east and west. King Ashok first of all ruled over Ujjain. A sizeable portion of Central India was part of the Gupta empire (300-500 AD). The Muslims came into Central India in the beginning of 11th century. First of all Mahmud of Ghazni came over here and then Mohammad Gouri who incorporated some parts of Central India into his ruling territory of Delhi. Central India was also part of the Mughal empire. During the period between the beginning of the influence of Marathas and the death of Madhoji Scindia in 1794, Marathas were on the ascendant in Central India but later on the small states started coming into existence. These small states became the cause of perpetuation of British power in the country. Queen Ahilyabai Holkar of Indore, the Gond Maharani Kamla Devi and Queen Durgawati, etc., were some women rulers whose names have left an indelible imprint on Indian History for their outstanding rule.

Madhya Pradesh is bounded by Chhattisgarh in the east, Rajasthan and Gujarat in the west, Uttar Pradesh in the north and Maharashtra in the south.

AGRICULTURE

Agriculture is the mainstay of State's economy as 74.73 per cent of the total population lives in rural areas. About 49 per cent area of the state is cultivable. The principal crops are wheat, rice, *jowar*, cotton, oilseeds, pulses, soyabean, gram and linseed. Total foodgrain production has been 15.48 million metric tonne (MMT), wheat production 8.37 MMT, soyabean production 4.43 MMT, rice production 1.68 MMT and of pulses 3.29 MMT. Oilseed production was 5.46 MMT, cotton 4.6 lakh bales and production of jaggery sugar (*gur*) from sugarcane was 20 lakh tonnes in the state.

INDUSTRY AND MINERALS

Madhya Pradesh has entered the era of high-tech industries such as petrochemicals, electronics, telecommunications, automobiles, etc. Madhya Pradesh is producing optical fibre for telecommunication needs. A large number of automobile industries have been established at Pithampur near Indore. Prominent industries in the public sector in the State are Bharat Heavy Electricals Limited at Bhopal, Security Paper Mill at Hoshangabad, Bank Note Press at Dewas, Newsprint Factory at Nepanagar and Alkaloid Factory at Neemuch. During 1999-2000, 81.13 million metre cloth was manufactured in the handloom sector and 131.59 million metre cloth by the powerlooms. Total production of saleable steel in 1998-99 was 3.35 million tonne while that of aluminium was 91.8 thousand tonne. Production of cement touched 11.24 million metric tonne mark. The state produced about 58.4 thousand tonne newsprint. An Air Cargo Complex, Indo-German Tool Room and an Inland Container Depot are being established at Pithampur.

Madhya Pradesh is one of the leading States in the country in mineral production. Coal, bauxite, iron-ore, manganese-ore, rock phosphate, dolomite, copper-ore, limestone are being mined on a large scale. During 1999-2000, over 43 million tonnes of coal and 92 thousand tonnes of iron ore were produced.

Production of diamond was 46,668 carats and that of bauxite 248 thousand tonnes. Production of lime-stone was 22.31 million tonnes and that of copper-ore 74 thousand tonnes during 1999-2000. The State is famous for its traditional handicrafts and handloom cloths manufactured at Chanderi and Maheswar.

IRRIGATION AND POWER

The net area under irrigation was 5.66 million hectare in the year 1999-2000. Of this 0.24 m.ha. was under paddy, 3.40 m.ha. under wheat, 1.08 m.ha. under pulses and 0.32 m.ha. under oilseeds.

Total installed power generation capacity in 2000-01 was 2,900 MW. There are eight hydro-electric power stations with 747.5 MW installed capacity. A total of 50,271 out of 51,806 villages had been electrified by 2000-01. Power generation is 14,023.7 m.kwh.

The State Government has formed a joint venture (Narmada Hydro Electric Development Corporation) with National Hydro-Electric Power Corporation for execution of 1,000 MW Indira Sagar Hydro Electric Project and 520 MW Omkareshwar Hydro-Electric Power Project.

TRANSPORT

Roads

Total length of roads in the state is 67,600 km. The length of national highways in the state is 3,700 km while State highways extend to 7,300 km.

Railways

The main rail route linking northern India with southern India passes through Madhya Pradesh. Main junctions in the State are Bhopal, Bina, Gwalior, Indore, Itarsi, Jabalpur, Katni, Ratlam and Ujjain. The divisional railways headquarters are at Bhopal, Ratlam and Jabalpur.

Aviation

There are airports at Bhopal, Gwalior, Indore and Khajuraho.

FESTIVALS

A number of festivals are celebrated in Madhya Pradesh. An important tribal festival is Bhagoriya marked by traditional gaiety and enthusiasm. Shivratri is celebrated in Khajuraho, Bhojpur, Pachmarchi and Ujjain and has its own local flavour while Ramnavami festival at Chitrakoot and Orchha has a unique sense of devotion imbued with tradition. Festivals of Orchha, Malwa, Pachmarhi bring to the fore, repertoire of culture and art of the people. Tansen Music Festival. Gwalior, Ustad Allauddin Khan Music Festival of Maihar, Kalidas Samaroh, Ujjain and Festival of Dances at Khajuraho are some of the well known art festivals of Madhya Pradesh.

TOURIST CENTRES

Perfectly preserved medieval cities, refreshing and enchanting wildlife sanctuaries and some of the holiest and most revered pilgrim centres offer to the tourist the most fulfilling experience. Tranquil beauty of Pachmarhi, glittering splendour of Marble Rocks and roaring sound of Dhuandhar Fall at Bhedaghat, Kanha National Park, with its unique Barasingha and Bandhavgarh National Park with its prehistoric caves and wildlife are some of the major attractions of the state. Gwalior, Mandu, Datia, Chanderi, Jabalpur, Orchha, Raisen, Sanchi, Vidisha, Udaygiri, Bhimbetika, Indore and Bhopal are the places well-known for their historical monuments. Maheshwar, Omkareshwar, Ujjain, Chitrakoot and Amarkantak are major centres of pilgrimages. Unique temples of Khajuraho are famous all over the world. The temples of Orchha, Bhojpur and Udaypur attract large number of tourists as well as pilgrims. Archaeological treasures are preserved in the museums at Satna, Sanchi, Vidisha, Gwalior, Indore, Mandsaur, Ujjain, Rajgarh, Bhopal, Jabalpur, Rewa and many other places.

GOVERNMENT

<i>Governor</i>	: Dr Bhai Mahavir	<i>Chief Secretary</i>	: K.S. Sharma
<i>Chief Minister</i>	: Digvijay Singh	<i>Chief Justice</i>	: Justice Bhawani Singh
<i>Speaker</i>	: Shrinivas Tiwari	<i>Jurisdiction of</i>	: Madhya Pradesh
		<i>High Court</i>	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population (1991 Census)	Headquarters
1	2	3	4	5
1.	Badwani	-	8,32,422	Badwani
2.	Balaghat	9,229	13,62,731	Balaghat
3.	Betul	10,043	11,80,527	Betul
4.	Bhind	4,459	12,14,480	Bhind
5.	Bhopal	2,772	13,50,302	Bhopal
6.	Chhatarpur	8,687	11,58,853	Chhatarpur
7.	Chhindwara	11,815	15,63,332	Chhindwara
8.	Damoh	7,306	8,97,544	Damoh
9.	Datia	2,038	3,97,743	Datia
10.	Dewas	7,020	10,32,522	Dewas
11.	Dhar	8,153	13,66,626	Dhar
12.	Dindori	-	5,83,019	Dindori
13.	Guna	11,065	13,09,451	Guna
14.	Gwalior	5,214	14,14,948	Gwalior
15.	Harda	-	3,80,762	Harda

16.	Hoshangabad	10,037	13,65,970	Hoshangabad
17.	Indore	3,898	18,30,870	Indore
18.	Jabalpur	10,160	26,45,232	Jabalpur
19.	Jhabua	6,782	11,29,356	Jhabua
20.	Katni	-	8,81,925	Katni
21.	Khandwa (East Nimar)	10,779	14,32,855	Khandwa
22.	Khargone (West Nimar)	13,450	20,26,317	Khargone
23.	Mandla	13,269	12,91,313	Mandla
24.	Mandsaur	9,791	15,55,481	Mandsaur
25.	Morena	11,594	17,07,619	Morena
26.	Narsinghpur	5,133	7,84,523	Narsinghpur
27.	Neemuch	-	5,98,339	Neemuch
28.	Panna	7,135	6,84,721	Panna
29.	Raisen	8,446	8,77,369	Raisen
30.	Rajgarh	6,154	9,92,315	Rajgarh
31.	Ratlam	4,861	9,71,309	Ratlam
32.	Rewa	6,314	15,50,140	Rewa
33.	Sagar	10,252	16,46,198	Sagar
34.	Satna	7,502	14,62,412	Satna
35.	Sehore	6,578	8,40,427	Sehore
36.	Seoni	8,758	9,99,762	Seoni
37.	Shahdol	14,028	17,43,068	Shahdol
38.	Shajapur	6,196	10,32,520	Shajapur
39.	Shayopur	-	4,31,480	Shayopur
40.	Shivpuri	10,278	11,31,933	Shivpuri
41.	Sidhi	10,256	13,71,935	Sidhi
42.	Tikamgarh	5,048	9,40,609	Tikamgarh
43.	Ujjain	6,091	13,86,465	Ujjain
44.	Umaria	-	4,20,815	Umaria
45.	Vidisha	2,742	9,71,097	Vidisha

MAHARASHTRA

Area	: 3,07,713 sq km	Population	: 9,97,52,247
Capital	: Mumbai	Principal Language	: Marathi

HISTORY AND GEOGRAPHY

The first well-known rulers of Maharashtra were the *Satavahanas* (230 BC 225 AD), who were the founders of Maharashtra, and have left a plethora of literary, epigraphic, artistic and archaeological evidence. This epoch marks tremendous development in every field of human endeavour.

Then came the *Vakatakas* who established a pan-Indian empire. Under

them Maharashtra witnessed an all-sided development in the fields of learning, arts and religion. Some of the Ajanta Caves and fresco paintings reached the high-level mark during their rule. After the *Vakatakas* and after a brief interlude of the *Kalachuri* dynasty, the most important rulers were the Chalukyas followed by the Rashtrakutas and the Yadavas apart from the Shilaharas on the coast. The Yadavas, with Marathi as their court language extended their authority over large parts of the Deccan.

While the Bahamani rule brought a degree of cohesion to the land and its culture, a uniquely homogeneous evolution of Maharashtra as an entity became a reality under the able leadership of Shivaji. A new sense of *Swaraj* and nationalism was evolved by Shivaji. His noble and glorious power stalled the Mughal advances in this part of India. The Peshwas established the Maratha supremacy from the Deccan Plateau to Attock in Punjab.

Maharashtra was in the forefront in the freedom struggle and it was here that the Indian National Congress was born. A galaxy of leaders from Mumbai and other cities in Maharashtra led the Congress movement under the guidance of Tilak and then Mahatma Gandhi. Maharashtra was the home of Gandhiji's movement, while Sevagram was the capital of nationalistic India during the Gandhian era.

The administrative evolution of the state of Maharashtra is the outcome of the linguistic reorganisation of the States of India, effected on 1 May 1960. The State was formed by bringing together all contiguous Marathi speaking areas, which previously belonged to four different administrative hegemonics—the district between Daman and Goa that formed part of the original British Bombay Province; five districts of the Nizam's dominion of Hyderabad; eight districts in the south of the Central Provinces (Madhya Pradesh) and a sizeable number of petty native-ruled state enclaves lying enclosed within the above areas, which later merged with adjoining districts. Located in the north centre of Peninsular India, with the command of the Arabian Sea through its port of Mumbai, Maharashtra has a remarkable physical homogeneity, enforced by its underlying geology. The dominant physical trait of the State is its plateau character. Maharashtra is a plateau of plateaus, its western upturned rims rising to form the Sahyadri Range parallel to the sea-coast and its slopes gently descending towards the east and south-east. Satpuda ranges cover northern part of the State, while Ajanta and Satmala ranges run through central part of the State. Arabian Sea guards the western boundary of Maharashtra, while Gujarat and Madhya Pradesh are on the northern side. Chhattisgarh covers the eastern boundary of the State. Karnataka and Andhra Pradesh are on its southern side.

AGRICULTURE

About 61.14 per cent of the total workers in the State depend on agriculture and allied activities. Net irrigated area in 1999-2000 was 25.7 lakh hectares (gross 33.7 lakh hectares). Principal crops grown in the State are rice, *jowar*,

bajra, wheat, *tur*, *mung*, *udid*, gram and other pulses. The State is a major producer of oilseeds. Groundnut, sunflower, soyabean are major oil seed crops. Important cash crops are cotton, sugarcane, turmeric and vegetables. The State has an area of 10.91 lakh hectares under various fruit crops like mango, banana, orange, grape, cashewnut, etc.

INDUSTRY

The State has been identified as the country's powerhouse and Mumbai, its capital as the centre point of India's financial and commercial markets. Industrial sector occupies a prominent position in the economy of Maharashtra. Food products, breweries, tobacco and related products, cotton textiles, textile products, paper and paper products, printing and publishing, rubber, plastic, chemical and chemical products, machinery, electrical machinery, apparatus and appliances, and transport equipment and parts contribute substantially to the industrial production in the state. The industrial production (manufacturing) in the state in the first nine months of 2000-01 was higher by 7.2 per cent than that of the corresponding period of 1999-2000.

IRRIGATION AND POWER

By the end of June 2000, 29 major, 156 medium and about 2,187 state sector minor irrigation projects had been completed. Another 76 major and 143 medium irrigation projects are under construction. The gross irrigated area in 1999-2000 was 33.07 lakh hectares.

Maharashtra had an installed capacity of 13,832 MW in 1999-2000. The Plant Load Factor (PLF) in the State was 71.8 per cent and power generation was 63.312 million KWH.

TRANSPORT

Roads

Total length of roads in the State in March 2000 was 2.57 lakh km consisting of 3,735 km of national highways, 33,165 km of state highways, 46,473 km of major district roads, 43,005 km of other district roads, and 87,573 km of village roads.

Railways

Maharashtra has 5,396 km of railway routes of which about 76.7 per cent is broad gauge, 9.3 per cent meter gauge and 14 per cent is narrow gauge.

Aviation

Maharashtra has a total of twenty-four Air fields/airports. Of these 17 are under the control of the State government, four are managed and controlled by the International Airport Authority / Airport Authority of India and three

by the Ministry of Defence. The Airfields under the control of the State government have no facilities for the operation of commercial flights at present.

Ports

Mumbai is the major port. There are two major and 48 notified minor ports in the State.

TOURIST CENTRES

Some important tourist centres are : Ajanta, Ellora, Elephanta, Kanheri and Karla caves, Mahabaleshwar, Matheran and Panchgani, Jawhar, Malshejghat, Amboli, Chikaldara, Panhala Hill stations and religious places at Pandharpur, Nashik, Shirdi, Nanded, Audhanagnath, Trimbakeshwar, Tuljapur, Ganpatipule, Bhimashanker, Harihareshwar and Shegaon.

GOVERNMENT

<i>Governor</i> :	Dr P.C. Alexander	<i>Chief Secretary</i> :	V. Ranganathan
<i>Chief Minister</i> :	Vilas Rao Desmukh	<i>Chief Justice</i> :	B.P. Singh
		<i>Jurisdiction of High Court</i> :	Maharashtra and Goa

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	Districts	Area (sq km)	Population (1991 Census)	Headquarters
1.	Ahmednagar	17,048	33,72,935	Ahmednagar
2.	Akola	5,429	13,51,959	Akola
3.	Amravati	12,210	22,00,057	Amravati
4.	Aurangabad	10,107	22,13,779	Aurangabad
5.	Bhandara	3,895	10,04,662	Bhandara
6.	Beed	10,693	18,22,072	Beed
7.	Mumbai City	69	31,74,889	Mumbai City
8.	Mumbai (Sub.)	534	67,51,002	Mumbai (Sub.)
9.	Buldhana	9,661	18,86,299	Buldhana
10.	Chandrapur	11,443	17,71,994	Chandrapur
11.	Dhule	8,063	14,73,170	Dhule
12.	Gadchiroli	14,412	7,87,010	Gadchiroli
13.	Jalgaon	11,765	31,87,634	Jalgaon
14.	Jalna	7,718	13,64,425	Jalna
15.	Kolhapur	7,685	29,89,507	Kolhapur
16.	Latur	7,157	16,76,641	Latur

17.	Nagpur	9,892	32,87,139	Nagpur
18.	Nanded	10,528	23,30,374	Nanded
19.	Nashik	15,530	38,51,352	Nashik
20.	Osmanabad	7,569	12,76,327	Osmanabad
21.	Parbhani	6,517	13,05,492	Parbhani
22.	Pune	15,643	55,32,532	Pune
23.	Raigad	7,152	18,24,816	Alibag
24.	Ratnagiri	8,208	15,44,057	Ratnagiri
25.	Sangli	8,572	22,09,488	Sangli
26.	Satara	10,480	24,51,372	Satara
27.	Sindhudurg	5,207	8,32,152	Oras
28.	Solapur	14,895	32,31,057	Solapur
29.	Thane	9,558	52,49,176	Thane
30.	Wardha	6,309	10,67,357	Wardha
31.	Yavatmal	9,892	32,87,139	Yavatmal
32.	Nandurbar	5,034	10,62,545	Nandurbar
33.	Washim	5,134	8,62,312	Washim
34.	Gondia	5,425	11,02,967	Gondia
35.	Hingoli	4,524	8,09,278	Hingoli

MANIPUR

Area : 22,327 sq km	Population : 23,88,634
Capital : Imphal	Principal Language : Manipuri

HISTORY AND GEOGRAPHY

Not much of recorded history of Manipur is available though it has been in existence since time immemorial. According to the historians, Pakhangba ascended the throne of one of the seven main principalities in 33 AD and founded a long dynasty which ruled Manipur till 1891. Manipur came under the British Rule in 1891 and later on it was merged in the Indian Union as part 'C' State on 15 October 1949. This was replaced by a Territorial Council of 30 elected and two nominated members. Later in 1963, a Legislative Assembly of 30 elected and two nominated members was established under the Union Territories Act, 1962. The status of the Administrator was raised from Chief Commissioner to the status of the Lt Governor with effect from 19 December 1969. Manipur attained full-fledged statehood on 21 January 1972. With this a Legislative Assembly consisting of 60 elected members was established.

Geographically the State is divided into two tracts : the hills comprising of five districts and the plains with four districts. It is bounded by Myanmar

by the Ministry of Defence. The Airfields under the control of the State government have no facilities for the operation of commercial flights at present.

Ports

Mumbai is the major port. There are two major and 48 notified minor ports in the State.

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GOVERNMENT

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<i>Chief Minister</i>	: Vilas Rao Desmukh	<i>Chief Justice</i>	: B.P. Singh
		<i>Jurisdiction of High Court</i>	: Maharashtra and Goa

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

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35.	Hingoli	4,524	8,09,278	Hingoli

MANIPUR

<i>Area</i> : 22,327 sq km	<i>Population</i> : 23,88,634
<i>Capital</i> : Imphal	<i>Principal Language</i> : Manipuri

HISTORY AND GEOGRAPHY

Not much of recorded history of Manipur is available though it has been in existence since time immemorial. According to the historians, Pakhangba ascended the throne of one of the seven main principalities in 33 AD and founded a long dynasty which ruled Manipur till 1891. Manipur came under the British Rule in 1891 and later on it was merged in the Indian Union as part 'C' State on 15 October 1949. This was replaced by a Territorial Council of 30 elected and two nominated members. Later in 1963, a Legislative Assembly of 30 elected and two nominated members was established under the Union Territories Act, 1962. The status of the Administrator was raised from Chief Commissioner to the status of the Lt Governor with effect from 19 December 1969. Manipur attained full-fledged statehood on 21 January 1972. With this a Legislative Assembly consisting of 60 elected members was established.

Geographically the State is divided into two tracts : the hills comprising of five districts and the plains with four districts. It is bounded by Myanmar

on the east, Nagaland on the north, Assam and Mizoram on the west and Myanmar and Mizoram on the south.

AGRICULTURE

Agriculture is the single largest source of livelihood of the majority of the rural masses and is also the mainstay of the State's economy. From a modest beginning in 1946, the State has now got 715 number of trained manpower of its own to implement various schemes and programmes in agriculture. The productivity levels during 2000-01 are : rice—2.25 mt/ha, maize—200 mt/ha, pulses—0.74 mt/ha, oilseeds—0.67 mt/ha, sugarcane—61.66 mt/ha and potato—8.25 mt/ha.

FOREST

Total area under forest cover is 17,384 sq km of which 1,467 sq km fall under reserved forests while 4,171 sq km is protected forests and 11,746 sq km are unclassified forests. Shiroy village in Ukhrul district, Manipur is the abode of *Shiroy Lily* (*Lilium Macklinae*), the paradise flower which is not found elsewhere in the world. The Dzuko valley is the only habitat of the endemic and the rarest species *Dzuko Lily* (*Lilium Chitrangadae*). The state is also the only home of the Brow-Antlered Deer (*Cervus-eldi-eldi*) locally known as *Sangai* surviving in its natural habitat, the Keibul Lamjao, the only floating National Park in the world.

IRRIGATION

Within a short period of two decades of introduction of major and medium irrigation schemes in the State, remarkable progress has been made bringing 54,100 hectares, under the major and medium irrigation programmes. Currently three major/medium irrigation projects are in progress.

POWER

The installed capacity was 11,845 KW and 2,001 villages had been electrified by March 2001. Power supply position in the State showed a marked improvement with the availability of share of power from the Central Sector Generating Stations, i.e., Loktak HE Project, Kopili HE Project, Khandong HE Project and AGBPP, Kothalguri and AGTPP, Ramchandranagar (all NEEPCO). A heavy fuel based power project (6x6 MW) at Leimakhong is rescheduled to be commissioned by January 2002.

INDUSTRIES

Manipur is making rapid strides towards industrialisation and has 8,991 registered industrial units by the end of March 2001 providing employment to 47,186 persons. Special thrust has been directed towards revitalisation of various industrial corporations and development of infrastructure. Manipur Spinning Mills Corporation Limited was provided with Rs 217 lakh as equity share in 1999-2000 while the Manipur Cement Limited was provided with

States and Union Territories

a sum of Rs 110 lakh as equity share during the same period. The Centre for Electronics Design and Technology has established its branch office in Imphal to provide training inputs and basic technical facilities for the prospective entrepreneurs of the State in the field of electronics and plastic industries. One Industrial Growth Centre is coming up at Lamlai-Napet. The Government of India has also sanctioned one Export Promotion Industrial Park at Khunuta and one Integrated Infrastructure Development Centre at Moreh.

TRANSPORT

Roads

The State has 7,667 km of roads both metalled and unmetalled as on 31 March 2000. The length of roads consists of national highways 957 km, state highways 839 km, district roads 1,946 km and village roads 3,925 km.

Railways

The State is included in the railway map of India with the opening of a rail head at Jiribam in May 1990.

Aviation

Imphal is the only airport which is linked with other stations in the region by Indian Airlines and Jet Airways. The Indian Airlines flights connect Imphal to Silchar, Aizawl, Guwahati, Kolkata and Delhi. The Jet Airways flights connect Imphal to Guwahati, Kolkata and Jorhat.

FESTIVALS

Important festivals of the State are: *Lai Haraoba* *Rasa Leela*, *Chieraoba*, *Ningol Chakkouba*, *Rath-Jatra*, *Idul-Fitre*, *Imoinu Iratpa*, *Gaan Ngai*, *Lui-Ngai-Ni*, *Idul Zuha*, *Yaosang (Dolijatra/Holi)*, *Durga Pujah*, *Mera Houchongba*, *Diwali*, *Kut* and *Christmas*, etc.

TOURIST CENTRES

Some important tourist centres in the State are : Shree Govindjee Temple Khwairamband Bazar (Ima Market), War Cemeteries, Shaheed Minar, Nupi Lal (Women's War) Memorial, Imphal, Khonghampat Orchidarium, INA Memorial (Moirang), Loktak Lake, Keibul Lamjao National Park, Bishnu Temple at Bishnupur, Sendra, Moreh, Siroi Hills, Siroi Village, Dzuko Valley, State Museum, Kaina Tourist Home, Khongjom War Memorial Complex, etc.

GOVERNMENT

Governor : Ved Marwah
Chief Minister : Now under
President Rule

Chief Secretary : Rakesh
Jurisdiction of : A permanent bench of the
High Court : Guwahati High Court, Imphal bench
started functioning from 14
March 1992.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.N.	District	Area (sq km)	Population	Headquarters
1.	Bishnupur	496	2,05,907	Bishnupur
2.	Chandel	3,313	1,22,714	Chandel
3.	Churachandpur	4,570	2,28,707	Churachandpur
4.	Imphal West	1,228 ¹	4,39,532	Lamphel
5.	Senapati	3,271	3,79,214	Senapati
6.	Imphal East	—	3,93,780	Porompat
7.	Tamenglong	4,391	1,11,493	Tamenglong
8.	Thoubal	514	3,66,341	Thoubal
9.	Ukhrul	4,544	1,40,946	Ukhrul

¹ Area of Imphal-East and Imphal-West

MEGHALAYA

<i>Area</i> : 22,429 sq km	<i>Population</i> : 23,06,069
<i>Capital</i> : Shillong	<i>Principal Languages</i> : Khasi, Garo and English

HISTORY AND GEOGRAPHY

Meghalaya was created as an autonomous State within the State of Assam on 2 April 1970. The full-fledged State of Meghalaya came into existence on 2 January 1972. It is bound on the north and east by Assam and on the south and west by Bangladesh. Meghalaya literally meaning the abode of clouds is essentially a hilly state. It is predominantly inhabited by the Khasis, the Jaintias and the Garos tribal communities. The Khasi Hills and Jaintia Hills which form the central and eastern parts of Meghalaya is an imposing plateau with rolling grassland, hills and river valleys. The southern face of the plateau is marked by deep gorges and abrupt slopes, at the foot of which, a narrow strip of plain land runs along the international border with Bangladesh.

AGRICULTURE AND IRRIGATION

Meghalaya is basically an agricultural State in which about 80 per cent of its population depends primarily on agriculture for their livelihood. The State has a vast potential for developing horticulture due to agroclimatic variations which offer much scope for cultivation of temperate, sub-tropical and tropical fruits and vegetables.

Besides the major food crops of rice and maize, Meghalaya is renowned for its oranges (Khasi Mandarin), pineapple, banana, jackfruits, temperate

fruits like plum, pears and peaches, etc. Cash crops, popularly and traditionally cultivated include potato, turmeric, ginger, black pepper, arecanut, betelvine, tapioca, short staple cotton, jute and mesta, mustard and rape. Special emphasis is presently laid on non-traditional crops like oilseeds (groundnut, soyabean and sunflower), cashewnut, tea and coffee, mushroom, medicinal plants, orchids and commercial flowers.

The estimated irrigation potential of the State both from surface and ground water is about 2.13 lakh hectare, the potential created so far is 55,182 hectare.

INDUSTRIES

The Meghalaya Industrial Development Corporation Limited, as the Industrial and Financial Institution of the State, has been rendering financial assistance to the local entrepreneurs. The District Industries Centres have been working in the field of promotion and development of the small scale, village, tiny and cottage sector of industries. A number of industrial projects have been set up for the manufacture of iron and steel materials, cement and other consumers products.

FESTIVALS

A five-day-long religious festival of the *Khasis Ka Pamblang Nongkrem* popularly known as *Nongkrem* dance is held annually at village Smit, 11 km from Shillong. *Shad Sukmynsiem* another important festival of the Khasis is held at Shillong during the second week of April. *Behdiengkhlam*, the most important and colourful festival of the Jaintias is celebrated annually at Jowai in Jaintia Hills in July. *Wangala* festival is observed for a week to honour Saljong (Sungod) of the Garos during October-November.

TOURIST CENTRES

Meghalaya is dotted with a number of lovely tourist spots where nature unveils herself in all her glory. Shillong, the capital city, has a number of beautiful spots. They are : Ward's Lake, Lady Hydari Park, Polo Ground, Mini Zoo, Elephant Falls and Shillong peak overlooking the city and the golf course which is one of the best in the country.

TRANSPORT

Roads

Six national highways pass through Meghalaya. The State has 7,117 km of both surfaced and unsurfaced roads under P.W.D.

Aviation

The only airport in the State at Umroi, 35 km from Shillong is yet to function.

GOVERNMENT

<i>Governor</i> : M.M. Jacob	<i>Chief Secretary</i> : J.P. Singh
<i>Chief Minister</i> : Dr F.A. Khonglam	<i>Jurisdiction of High Court</i> : Falls under the jurisdiction of Guwahati High Court. There is a High Court Bench at Shillong.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	East Garo Hills	2,603	2,47,555	Williamnagar
2.	East Khasi Hills	2,748	6,60,994	Shillong
3.	Jaintia Hills	3,819	2,95,692	Jowai
4.	West Garo Hills	3,714	5,15,813	Tura
5.	West Khasi Hills	5,247	2,94,115	Nongstoin
6.	Ri-Bhoi	2,448	1,92,795	Nongpoh
7.	South Garo Hills	1,850	99,105	Baghmara

MIZORAM

<i>Area</i> : 20,987 sq km	<i>Population</i> : 8,91,058
<i>Capital</i> : Aizawl	<i>Principal Languages</i> : Mizo and English

HISTORY AND GEOGRAPHY

Mizoram is a mountainous region which became the 23rd state of the Indian Union in February 1987. It was one of the districts of Assam till 1972 when it became a Union Territory. After being annexed by the British in 1891, for the first few years, Lushai Hills in the north remained under Assam while the southern half remained under Bengal. Both these parts were amalgamated in 1898 into one district called Lushai Hills District under the Chief Commissioner of Assam. With the implementation of the North-Eastern Reorganisation Act in 1972, Mizoram became a Union Territory and as a sequel to the signing of the historic memorandum of settlement between the Government of India and the Mizo National Front in 1986, it was granted statehood on 20 February 1987. Sandwiched between Myanmar in the east and the south and Bangladesh in the west, Mizoram occupies an area of great strategic importance in the north-eastern corner of India. Mizoram has great natural beauty and an endless variety of landscape. It is rich in fauna and flora.

The origin of the word 'Mizo' is not known. The Mizos came under the influence of the British Missionaries in the 19th century. Now most of the Mizos are Christians. Mizo language has no script of its own. The missionaries introduced the Roman script for Mizo language and formal education.

AGRICULTURE

About 60 per cent of the people of Mizoram are engaged in agricultural pursuits. The main pattern of agriculture followed is *jhum* or shifting cultivation. Out of the estimated potential available area of 4.4 lakh hectares for horticulture, the area put under plantation is around 25,000 hectares only. The main horticulture crops are oranges, lemon, *kagzi lim*, passion fruits, *hatkora*, *jamir*, pineapple and papaya. Other crops are sugarcane, tapioca and cotton. People have started extensive cultivation of ginger and fruit crops.

IRRIGATION

The ultimate surface irrigation potential is estimated at 70,000 hectares of which 45,000 hectares is under flow and 25,000 hectares for river lift irrigation. The irrigated area has now gone up to 7,260 hectares by constructing and completing 70 *pucca* minor irrigation projects and six lift irrigation projects for raising double and triple crops in a year.

INDUSTRY

The entire Mizoram is a Notified Backward Area and is categorised under 'No Industry District'. However, concerted efforts were made in the last decade to accelerate the growth of industries in Mizoram. For the development of industries in the state, Government framed industrial policy in 1989. In the policy resolution priority industries identified are : agro and forest-based industries, followed by handloom and handicrafts, electronics, consumer industries. Sericulture is operating at Aizawl with two wings, *viz.*, handloom and handicrafts wing and geology and mining wing.

The completed projects of fruit preservation factory at Vairengte, Mizo Milling Plant at Khawzawl and Fruit Juice Concentrate Plant at Chhingchhip were transferred to the incorporated Mizoram Food & Allied Industries Corporation (MIFCO) for commercial operation. Maize Milling Plant also has been completed and commissioned by MIFCO.

Development of tea industry/gardens and raising of Tooklai approved varieties of ten seedlings has been taken up by the Government around Biate areas.

POWER

Construction of Tuirial Hydel Project capable of generating 60 MW is in progress. DPR of Kolodyne Phase-I having a capacity of 120 MW has been handed over to the State Government by Brahmaputra Board and CWC. A 3 MW Teirei Hydel Project was commissioned and 23 diesel power houses have been functioning. A total of 695 villages have been electrified and 577 km of 132 KV line completed. DPR for Bairabi Hydel Project capable of generating 80 MW has been handed over the State Government by the Brahmaputra Board on 18 April 2000.

TRANSPORT

Total road length in the State is 4,001.53 km. Rail link in the State has been established at Bairabi. Aizawl is connected by air. State PWD has completed metalling and black topping of 2,103 km.

FESTIVALS

Mizos are basically agriculturists. All their activities centre round *jhum* cultivation and their festivals are linked with such agricultural operations. *Kut* is the Mizo word for festivals. Mizos have three major festivals called *Chapchar Kut*, *Mim Kut* and *Pawl Kut*.

TOURIST CENTRES

Aizawl located at nearly 4,000 feet above sea-level, is a religious and cultural centre of Mizoram. Champhai is a beautiful resort on the Myanmar border. Tamdil a natural lake with virgin forest is 60 km from Aizawl and 10 km from tourist resort of Saitual. Vantawng falls, five km from hill station Thenzawl, are the highest and most beautiful waterfalls in Mizoram. The Department of Tourism has opened Tourist Lodges at Aizawl, Lunglei, Champhai and wayside restaurants at Thingdawl, Hnahthial, recreational centre at Beraw Tlang and Alpine picnic hut at District Park near Zobawk.

GOVERNMENT

<i>Governor</i>	: A.R. Kohli	<i>Chief Secretary</i>	: H.V. Lalringa
<i>Chief Minister</i>	: Zoramthanga	<i>Jurisdiction of</i>	: Falls under the jurisdiction of
<i>Speaker</i>	: R. Lalawia	<i>High Court</i>	Guwahati High Court There is a bench at Mizoram

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Aizawl	3,576.31	3,39,812	Aizawl
2.	Lunglei	4,538.00	1,37,155	Lunglei
3.	Chhimtuipui	1,399.90	60,823	Saiha
4.	Lawngtlai	2,557.10	73,050	Lawngtlai
5.	Champhai	3,185.85	1,01,389	Champhai
6.	Kolasib	1,282.51	60,977	Kolasib
7.	Mamit	3,025.75	62,313	Mamit
8.	Serchhip	1,421.60	55,539	Serchhip

NAGALAND

<i>Area</i> : 16,579 sq km	<i>Population</i> : 19,88,636
<i>Capital</i> : Kohima	<i>Principal Languages</i> : Angami, Ao, Chang, Konyak, Lotha, Sangtam, Sema and Chakhesang.

HISTORY AND GEOGRAPHY

Like other inhabitants of the north-eastern region, the Nagas too have their share of legend and folklore regarding their origin and evolution through the ages. Nagas are basically tribal people and every tribe had its own effective system of self-governance from time immemorial. In the 12th and 13th centuries, gradual contact with the Ahoms of present day Assam was established but this did not have any significant impact on the traditional Naga way of life. However, in the 19th century the British appeared on the scene and ultimately the area was brought under British administration. After Independence this territory was made a Centrally administered area in 1957, administered by the Governor of Assam. It was known as the Naga Hills Tuensang Area. This failed to quell popular aspirations and unrest began. Hence in 1961, this was renamed as Nagaland and given the status of State of the Indian Union which was formally inaugurated on 1 Decemebrr 1963. Situated in the extreme north-east of the country, Nagaland is bounded by Arunachal Pradesh in the north, Assam in west, Manipur in south and Myanmar in the east.

AGRICULTURE

Agriculture is the main occupation of the people in the State. During 1999-2000, the production of rice was 2,20,700 MT, of wheat 12,500 MT, maize 48,000 MT and of pulses, 13,000 MT.

INDUSTRY

The process of industrialisation in the State is in infancy but the need to have more industries has been well recognised. The Nagaland Sugar Mill at Dimapur has an installed capacity of 1,000 tonnes per day. There is a pulp and paper mill at Tuli and a plywood factory at Tizit. Handloom and handicrafts are important cottage industries which are mainly being managed by cooperative societies. An industrial growth centre near Dimapur is under construction. The Nagaland Industrial Development Corporation is the premier promotional organisation in providing guidance and capital assistance to entrepreneurs. The mini-cement plant at Wazeho has commenced production. The fruits and vegetables processing and cold storage Plant at Dimapur has an installed capacity of 5 MT per day.

IRRIGATION AND POWER

Minor irrigation works are mostly meant to divert small hill streamlets to irrigate valleys used for rice cultivation. Under minor irrigation, surface minor irrigation covered 6,736.76 hectare during 1999-2000. Number of electrified

villages stands at 1,196. Nagaland has achieved cent percent electrification of rural areas. A 24 megawatt hydro-electric project is under erection at Likhimro. Effort are being made to set up a 24 MW Thermal Power Project at Dimapur.

TRANSPORT

Roads

Total length of roads in Nagaland is 9,860 km.

Railways/Aviation

Dimapur is the only place where rail and air services are available. There is an Indian Airlines service connecting Dimapur with Guwahati and Kolkata.

FESTIVALS

Some of the important festivals are *Sekrenyi*, *Moatsu*, *Tuluni* and *Tokhu Emong*. All tribes celebrate their distinct seasonal festivals with a pageantry of colour and a feast of music.

GOVERNMENT

<i>Governor</i>	: O.P. Sharma	<i>Chief Secretary</i>	: R.S. Pandey
<i>Chief Minister</i>	: S.C. Jamir	<i>Jurisdiction of</i>	: Falls under Jurisdiction of
<i>Speaker</i>	: Zhovehu Lohe	<i>High Court</i>	Guwahati High Court. There is a bench at Kohima.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population (1991 Census)	Headquarters
1.	Kohima	4,011	3,87,581	Kohima
2.	Mokokchung	1,615	1,58,374	Mokokchung
3.	Mon	1,786	1,49,699	Mon
4.	Phek	2,026	1,02,156	Phek
5.	Tuensang	4,128	2,32,906	Tuensang
6.	Wokha	1,628	82,612	Wokha
7.	Zunheboto	1,255	97,218	Zunheboto
8.	Dimapur	-	-	Dimapur

ORISSA

<i>Area</i>	: 1,55,707 sq km	<i>Population</i>	: 3,67,06,920
<i>Capital</i>	: Bhubaneswar	<i>Principal Language</i>	: Oriya

HISTORY AND GEOGRAPHY

Orissa, the land of Oriyas, was known as Kalinga in ancient days. In the third century BC (261 BC) Ashoka the Mauryan emperor, sent a powerful force to conquer Kalinga which offered stubborn resistance. Kalinga was subdued but the carnage which followed, struck Ashoka with remorse. After the death of Ashoka, Kalinga regained its independence. In the second century BC, it became a powerful country under Kharavela. With the death of Kharavela, Orissa passed into obscurity. In the fourth century AD, Samudragupta invaded Orissa which lay astride his path and overcame resistance offered by five of its kings. In 610 AD, Orissa came under the sway of King Sasanka. After Sasanka's death, Harsha conquered Orissa.

Orissa had its own rulers (Ganga dynasty) in the seventh century AD. In 795 AD, Mahasivagupta Yajati II came to the throne and with him began the most brilliant epoch in the history of Orissa. He united Kalinga, Kangoda, Utkal and Koshala in the imperial tradition of Kharavela. Under the kings of Ganga dynasty, Orissa continued to flourish. Narasingha Dev of this dynasty is reputed to have built the unique Sun Temple of Konark. From mid-16th Century, Orissa was ruled successively by five Muslim kings till 1592, when Akbar annexed it into the Mughal empire. With the decline of the Mughal empire, Marathas occupied Orissa. They continued to hold it till the British took over in 1803.

Orissa was made into a separate province on 1 April 1936. After Independence, princely states in and around Orissa surrendered their sovereignty to the Government of India. By the States Merger (Governor's provinces) Order, 1949 the princely states of Orissa were completely merged with the state of Orissa in January 1949. Although the state of Orissa had many ancient names like Kalinga, Utkal and Udra, it is widely known as the land of Lord Jagannath. Lord Jagannath is intimately connected with the social, cultural and religious life of Orissa. Jainism, Islam and Christianity had considerable impact on the people of Orissa in different periods.

Orissa is situated in the north-eastern part of the Indian peninsula. It is bound by the Bay of Bengal on the east, West Bengal on the north-east, Jharkhand on the north, Chhattisgarh on the west and Andhra Pradesh on the south. The state may be broadly divided into four geographical regions—the northern plateau, central river basin, eastern hills and coastal plains.

AGRICULTURE

Agriculture is the dominant sector in the State's economy. Sixty-four per cent of the working population is engaged either directly or indirectly in this sector. Rice is the main crop and its production during the year 1999-2000 was 51.87 lakh metric tonnes. Sugarcane is the main cash crop. Production of fruits was 12.02 lakh metric tonnes in 1999-2000.

IRRIGATION AND POWER

The irrigation potential has been created through major, medium and minor

irrigation, lift irrigation and water harvesting projects up to 24.85 lakh hectares by 1999-2000. The Government has adopted some strategies for modernisation of present irrigation system.

The total installed capacity of power in state sector during 1999-2000 was 3,935.75 MW. The power available from all sources was 1,206.62 MW. Out of 46,989 villages in the State 36,625 villages have been electrified by 1999-2000.

INDUSTRY

The Industrial Promotion and Investment Corporation Limited, Industrial Development Corporation Limited and Orissa State Electronics Development Corporation are three nodal agencies promoting large and medium industries in the State. By the end of 1999-2000 Orissa had 339 large and medium industries. The State is providing institutional and financial support with various incentives and concessions for promotion of small scale, village and cottage industries. There were 62,552 small scale industries in the State by the end of 1999-2000.

TRANSPORT

Roads

The length of different categories of roads in the state is as follows: 3,190 km national highways, 30 km express highways, 4,816 km state highways, 8,325 km district roads and 24,852 km village roads.

Railways

The total railways route length in the state by the end of 1999-2000 was 2,317 km consisting of 2,173 km broad-gauge and 144 km narrow-gauge lines.

Aviation

The expansion and modernisation of Bhubaneswar airport is in progress. Direct link is available from Bhubaneswar to places like Delhi, Kolkata, Chennai, Nagpur and Hyderabad. There are 13 air strips and 16 helipads at different places of the State.

Ports

Paradeep is the only major port of the state. The improvement of Gopalpur to an all-weather port is in progress. The State Government has decided to build a Mega Port at Dhamara by private investment. The State Government is providing inland water transport services through motorised launches in different inaccessible areas.

TOURIST CENTRES

Bhubaneswar is famous for the Lingaraj Temple while Puri is famous for the temple of Lord Jagannath and its beautiful sea beach. Other places of tourist interest are Konark, Nandankanan, Chilika Lake, Dhauli Buddhist Temple, Udaygiri-Khandagiri ancient caves, Ratnagiri Lalitgiri and Udaygiri Buddhist images and caves, Saptasajya Similipal National Park and Tiger Project,

Hirakud Dam, Duduma Water Falls, Ushakothi Wildlife Sanctuary, Gopalpur Sea beach, Hari Shankar, Nrushinghanath, Taratarini, Taptapani, Bhitarkanika, Bhimakunda, Kapilash, etc.

GOVERNMENT

<i>Governor</i>	: M.M. Rajendran	<i>Chief Secretary</i>	: D.P. Bagchi
<i>Chief Minister</i>	: Naveen Patnaik	<i>Chief Justice</i>	: N.Y. Hanumantappa
<i>Speaker</i>	: Sharat Kumar Kar	<i>Jurisdiction of High Court</i>	: Orissa

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Angul	6,347	1,39,341	Angul
2.	Balasore	3,706	20,23,056	Balasore
3.	Bolangir	6,552	1,35,760	Bolangir
4.	Boudh	4,289	3,73,038	Boudh
5.	Bhadrak	2,788	13,32,249	Bhadrak
6.	Bargarh	5,832	13,45,601	Bargarh
7.	Cuttack	3,915	23,40,686	Cuttack
8.	Deogarh	2,781	2,74,095	Deogarh
9.	Ganjam	8,033	31,36,937	Chatrapur
10.	Dhenkanal	4,597	10,65,983	Dhenkanal
11.	Gajapati	3,056	5,18,448	Parlakhemundi
12.	Jagatsinghpur	1,759	10,56,556	Jagatsinghpur
13.	Jajpur	2,885	16,22,868	Panikoili
14.	Jharsuguda	2,202	5,09,056	Jharsuguda
15.	Keonjhar	8,336	15,61,521	Keonjhar
16.	Kalahandi	8,197	13,34,372	Kalahandi
17.	Koraput	8,534	11,77,954	Koraput
18.	Kendrapara	2,546	13,01,856	Kendrapara
19.	Khurda	2,888	18,74,405	Khurda
20.	Mayurbhanj	10,410	22,21,782	Baripada
21.	Malkangiri	6,115	4,80,232	Malkangiri
22.	Nawarangpur	5,135	10,18,171	Nawarangpur
23.	Nayagarh	3,954	8,63,934	Nayagarh
24.	Nawapara	3,408	5,30,524	Nawapara
25.	Puri	3,055	14,98,604	Puri
26.	Kandhamal	6,004	6,47,912	Phulbani
27.	Rayagada	7,585	8,23,019	Rayagada
28.	Sambalpur	6,702	9,28,889	Sambalpur
29.	Sundargarh	9,942	18,29,412	Sundargarh
30.	Sonepur	2,284	5,40,659	Sonepur

PUNJAB

Area	: 50,362 sq km	Population	: 2,42,89,296
Capital	: Chandigarh	Principal Language	: Punjabi

HISTORY AND GEOGRAPHY

Ancient Punjab formed part of the vast Indo-Iranian region. In later years it saw the rise and fall of the Mauryans, Bactrians, Greeks, Sakas, Kushans and Guptas. Medieval Punjab saw a supremacy of the Muslims. Ghaznavi was followed by the Ghoris, the slaves, the Khiljis, the Tughlaks, the Lodhis and the Mughals. Fifteenth and sixteenth centuries mark a period of watershed in the history of Punjab. Through teachings of Guru Nanak, *Bhakti* movement received a great impetus. *Prima facie* Sikhism was a socio-religious movement which was more interested in fighting evils in religion and society. It was Guru Gobind Singh, the tenth Guru who transformed the Sikhs into the Khalsa. They rose to challenge tyranny and after centuries of servitude established a human *Punjabi Raj* based on secularism and patriotism. Ranjit Singh has in the words of a Persian writer changed Punjab from *Madam Kada* to *Bagh-i-Bahisht* from the abode of sorrow to the garden of paradise. But soon after his death, the entire edifice collapsed on account of internal intrigues and British machinations. After two abortive Anglo-Singh wars, Punjab was finally annexed to the British Empire in 1849.

The fight against British rule had begun long before Mahatma Gandhi's arrival on the scene. The revolt found expression through the movement of a revivalist or reformist character. First, it was the Namdhari sect which believed in self-discipline and self-rule. Later, it was Lala Lajpat Rai who played a leading role in the Freedom Movement. Punjab was in the vanguard of India's freedom struggle on all fronts in India and abroad. Punjab's tale of woe did not culminate with Independence and it had to face the holocaust of Partition along with displaced persons with harrowing memories. Besides their rehabilitation, there was the task of reorganisation of the State.

Eight princely states of East Punjab were grouped together to form one single state called PEPSU—Patiala and the East Punjab States Union with Patiala as its capital. PEPSU state was merged with Punjab in 1956.

Situated in north-western corner of the country, Punjab is bound on the west by Pakistan, on north by Jammu and Kashmir, on north-east Himachal Pradesh and on south by Haryana and Rajasthan.

AGRICULTURE

Agriculture is the mainstay of Punjab's economy. Nearly 86 per cent of the total geographical area of the State is under cultivation. Main crops are wheat, rice, maize, gram and pulses. Production of foodgrains during 2000-01 is likely to be 255.39 lakh tonnes. Mushrooms, honey, chillies, potatoes, potato chips and tomato paste are exported from Punjab.

INDUSTRY

There are 2.01 lakh small scale units in the State. These units produce bicycle parts, sewing machines, hand tools, machine tools, auto parts, electronic items, sports goods, surgical and leather goods, hosiery, knitwear, nuts and bolts, textiles, sugar, vegetable oil, etc., giving employment to 8.97 lakh persons. As on 31 March 2001 there are 638 large and medium scale units providing employment to about 2.52 lakh persons. A large number of Information Technology and Software Development Companies are coming up in the State. With the setting up of Earth Station in Mohali at a cost of over Rs three crore and with laying of fiber optic backbone in the State basic infrastructure has been established for the growth of Information Technology industries. An Information Technology Park is also being set-up in Mohali. Punjab is one of the five States in the country to have been provided internet connectivity with Technology Bureau for International Industrial Partnerships in New Delhi and further to centres of advanced technologies across the globe under UNIDO assisted programmes. This is facilitating the industrial units of Punjab to acquire modern technologies and to finalise technology partnership proposal.

IRRIGATION AND POWER

The construction of Bhakra Nangal Complex, including Bhakra Dam, Bhakra Main Line, Nangal Hydel Channel, Ganguwal and Kotla Power House, Harike Barrage, Sirhind Feeder, remodelling of Madhopur Headworks into Barrage, etc., have been some of the major hydroelectric projects which have played a significant role in enhancing the irrigation and power potential of the State. Madhopur-Beas Link was constructed to transfer surplus water of Ravi to Beas. A similar Beas-Sutlej Link Project envisages the utilization of the Beas water for the production of electricity at Slapper and then transferring its water to Gobind Sagar lake. The Mukerian Hydel Electric Project and Beas-Sutlej Link Project are two important irrigation and power projects.

Thein Dam on river Ravi, with a storage capacity of a reservoir of 3,280 M.cm, will provide additional irrigation of 3.18 lakh hectares of land.

On the Irrigation front, about 60 per cent of the total irrigated land is served by tubewells, the remaining 40 per cent is irrigated through canals, etc.

All the four units of Ranjit Sagar Dam (4x150 MW) have been commissioned successfully. Annual generation from this project shall be 1,509 MUs out of which 4.6 per cent of energy generated shall be supplied free of cost to Himachal Pradesh and 20 per cent energy generated shall be supplied to Jammu & Kashmir at the generated cost.

Punjab has also allocated a Thermal Plant of 500 MW to be executed by a private party M/s CVK Power Limited. Presently, the Punjab State Electricity Board has 5,652 MW of installed capacity of which 3,134 MW is from its own thermal plants where as share from BBMB is 1,313 MW and share from Central sector is 1,205 MW. Another thermal plant by the name of Guru Hargobind Thermal Power Plant operating 2x210 MW capacity was

commissioned during 1998-99 at Lehra Mohabbat near Bathinda. The rice straw thermal power plant at Jalkheri is the first of its kind in India with a generating capacity of 10 MW. There is 100 per cent electrification in Punjab.

Punjab Energy Development Agency (PEDA) has implemented a special programme of 500 number, 2 HP Solar pump sets for irrigation purposes during 2000-01. The installation of these Solar pumpsets would result in saving of diesel of Rs 60 lakh per annum. PEDA had also taken up the execution of eight Mini Hydel Projects on canal falls as technology demonstration projects. The work of Sardar Swaran Singh National Institute of Renewable Energy on Jalandhar-Kapurthala road with grant of Rs 38 crore from Government of India, has been expedited.

TRANSPORT

Roads

The road length in Punjab is 45,263 km out of which provincial roads are 43,534 km while national highways are 1,729 km. All villages of the state have been linked with metalled roads.

Railways

The length of the rail routes passing through the State is around 3,726.06 km. Rail communication with Pakistan also emanates from Punjab (Amritsar).

Aviation

There are Civil Aviation Clubs at Bathinda, Ludhiana and Patiala and Jalandhar; one domestic airport at Chandigarh; international airport at Rajasansi (Amritsar) and two aerodromes at Patiala and Sahnewal (Ludhiana).

FESTIVALS

Besides festivals of *Dussehra*, *Diwali*, *Holi*, other important festivals/fairs/*melas* are *Baisakhi*, *Hola Mohalla*, *Basant*, *Maghi mela*, etc.

TOURIST CENTRES

The Punjab Tourism Development Corporation owns a chain of 32 tourist complexes and holiday homes. The State has a large number of places of tourist interest some of which include Golden Temple, Durgiana Mandir and Jallianwala Bagh in Amritsar, Takhat Keshgarh Sahib, Anandpur Sahib, Bhakra Dam, wet land Harike Pattan, Sangol for archaeological importance and Chatbir Zoo, Mughal Monument Complex Aam Khas Bagh and Roze Sharif of Sheikh Ahmed at Sirhind with graves of Afghan rulers, Sodal temple at Jalandhar and Ram Tirath commemorative Maharishi Balmiki's heritage which is being recognised as a venue for a national festival.

GOVERNMENT

<i>Governor</i>	: Lt. Gen. (Retd.) J.F.R. Jacob	<i>Chief Justice</i>	: Justice A.B. Saharya
<i>Chief Minister</i>	: Sardar Parkash Singh Badal	<i>Chief Secretary</i>	: N.K. Arora
		<i>Jurisdiction of High Court</i>	: Punjab, Haryana and Chandigarh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Amritsar	5,075	30,74,210	Amritsar
2.	Bathinda	3,377	11,81,236	Bathinda
3.	Faridkot	1,472	5,52,466	Faridkot
4.	Fatehgarh Sahib	1,180	5,39,751	Fatehgarh Sahib
5.	Firozepur	5,865	17,44,753	Firozepur
6.	Gurdaspur	3,570	20,96,889	Gurdaspur
7.	Hoshiarpur	3,310	14,78,045	Hoshiarpur
8.	Jalandhar	2,658	19,53,508	Jalandhar
9.	Kapurthala	1,646	7,52,287	Kapurthala
10.	Ludhiana	3,744	30,30,352	Ludhiana
11.	Mansa	2,174	6,88,630	Mansa
12.	Moga	1,672	8,86,313	Moga
13.	Muktsar	2,596	7,76,702	Muktsar
14.	Nawan Shehar	1,258	5,86,637	Nawan Shehar
15.	Patiala	3,627	18,39,056	Patiala
16.	Roop Nagar	2,117	11,10,000	Roop Nagar
17.	Sangrur	5,021	19,98,464	Sangrur

RAJASTHAN

<i>Area</i>	: 3,42,239 sq km	<i>Population</i>	: 5,64,73,122
<i>Capital</i>	: Jaipur	<i>Principal Languages</i>	: Hindi and Rajasthani

HISTORY AND GEOGRAPHY

Rajasthan, the second largest State in India area-wise prior to Independence was known as Rajputana or the home of Rajputs - a martial community who ruled over this area for centuries.

The history of Rajasthan dates back to the pre-historic times. Around 3,000 and 1,000 BC, it had a culture akin to that of the Indus Valley civilisation. It were the Chauhans who dominated Rajput affairs from seventh century and by 12th century they had become an imperial power. After the Chauhans, it were the Guhilots of Mewar who controlled the destiny of the warring tribes. Besides Mewar, the other historically prominent states were Marwar,

Jaipur, Bundi, Kota, Bharatpur and Alwar. Other states were only offshoots of these. All these states accepted the British Treaty of Subordinate Alliance in 1818 protecting the interest of the princes. This naturally left the people discontented.

After the revolt of 1857, the people united themselves under the leadership of Mahatma Gandhi to contribute to the freedom movement. With the introduction of provincial autonomy in 1935 in British India, agitation for civil liberties and political rights became stronger in Rajasthan. The process of uniting scattered states commenced from 1948 to 1956 when the States Reorganisation Act was promulgated. First came Matsya Union (1948) consisting of a fraction of states. Slowly and gradually other states merged with this Union. By 1949, major states like Bikaner, Jaipur, Jodhpur and Jaisalmer joined this Union making it United State of Greater Rajasthan. Ultimately in 1958, the present State of Rajasthan formally came into being, with Ajmer state, the Abu Road Taluka and Sunel Tappa joining it.

The entire western flank of the state borders with Pakistan, while Punjab, Haryana, Uttar Pradesh and Madhya Pradesh bind Rajasthan in north, north-east and south-east and Gujarat in south-west.

AGRICULTURE

Total cultivable area in the State is 165 lakh hectares (2000-01). The estimated foodgrain production is 89.35 lakh tonnes. Principal crops cultivated in the State are rice, barley, *jowar*, millet, maize, gram, wheat, oilseeds, pulses, cotton and tobacco. Cultivation of vegetable and citrus fruits such as orange and malta has also picked up over the last few years. Other crops are red chillies, mustard, cuminseeds, *methi* and *hing*.

INDUSTRY AND MINERALS

Endowed with a rich culture, Rajasthan is also rich in minerals and is fast emerging on the industrial scenario of the country. Some of the important Central undertakings are Zinc Smelter Plant at Devari (Udaipur), Copper Plant at Khetri Nagar (Jhunjhunu) and Precision Instrument Factory at Kota. Small-scale industrial units numbering 21.83 lakh with a capital investment of Rs 3,048.84 crore provided employment potential to about 8.46 lakh persons in the State in 2000-2001. Major industries are textiles and woollens, sugar, cement, glass, sodium plants, oxygen, vegetable dyes, pesticides, zinc, fertilizers, railway wagons, ball bearings, water and electricity metres, sulphuric acid, television sets, synthetic yarn and insulating bricks. Besides, precious and semi-precious stones, caustic soda, calcium carbide, nylon and tyres, etc., are other important industrial units.

Rajasthan has rich deposits of zinc concentrates, emerald, garnet, gypsum, silver ore, asbestos, felspar and mica. The State also abounds in salt, rock phosphate, marble and red stone deposits. The first Export Promotion Industrial Park of the country has been established and made operational at Sitapura (Jaipur).

IRRIGATION AND POWER

Irrigation potential has been raised by 21,500 hectares during 2000-01 and the total irrigation potential of the State is 28.55 lakh hectares. The State purchased 1,361.350 crore units of power in addition to its own generation of 1,198.699 crore units of power during 2000-01.

TRANSPORT

Roads

The total length of roads was 87,061 km as on March 2001.

Railways

Jodhpur, Jaipur, Bikaner, Kota, Sawai Madhopur and Bharatpur are main rail junctions of State.

Aviation

Regular air services connect Jaipur, Jodhpur and Udaipur with Delhi and Mumbai.

FESTIVALS

Rajasthan is a land of festivals and fairs. Besides the national festivals of *Holi*, *Deepawali*, *Vijayadashmi*, *Muharram*, Christmas, etc., birth anniversaries of gods and goddesses, saintly figures, folk heroes and heroines are celebrated. Important fairs are *Teej*, *Gangaur* (Jaipur), annual *Urs* of Ajmer Sherif and Galiakot, tribal *Kumbh* of Beneshwar (Dungarpur), Mahaveer fair at Shri Mahavirji in Sawai Madhopur, *Ramdeora* (Jaisalmer), *Janbheshwari* Fair (Mukam-Bikaner), *Kartik Poornima* and Cattle Fair (Pushkar-Ajmer) and *Shyamji* Fair (Sikar), etc.

TOURIST CENTRES

Jaipur, Jodhpur, Udaipur, Bikaner, Mount Abu, Sariska Tiger Sanctuary in Alwar, Keoladeo National Park at Bharatpur, Ajmer, Jaisalmer, Pali and Chittorgarh are important places of tourist interest in the state.

GOVERNMENT

Governor	: Justice Anshuman Singh	Chief Secretary	: Inder Jeet Khanna
Chief Minister	: Ashok Gehlot	Chief Justice	: Justice Arun Kumar
Speaker	: Paras Ram Maderna	Jurisdiction of High Court	: Rajasthan

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Ajmer	8,481	21,80,526	Ajmer
2.	Alwar	8,380	29,90,862	Alwar
3.	Banswara	5,037	15,00,420	Banswara
4.	Barmer	28,387	1,96,758	Barmer
5.	Bharatpur	5,066	20,98,323	Bharatpur
6.	Bhilwara	10,455	20,09,516	Bhilwara
7.	Bikaner	27,244	16,73,562	Bikaner
8.	Bundi	5,550	9,61,269	Bundi
9.	Chittorgarh	10,856	18,02,656	Chittorgarh
10.	Churu	16,830	19,22,908	Churu
11.	Dholpur	3,034	9,82,815	Dholpur
12.	Dungarpur	3,770	11,07,037	Dungarpur
13.	Ganganagar	7,944	17,88,487	Ganganagar
14.	Jaipur	11,588	52,52,388	Jaipur
15.	Jaisalmer	38,401	5,07,999	Jaisalmer
16.	Jalore	10,640	14,48,486	Jalore
17.	Jhalawar	6,219	11,80,342	Jhalawar
18.	Jhunjhunu	5,928	1,91,399	Jhunjhunu
19.	Jodhpur	22,850	28,80,777	Jodhpur
20.	Kota	5,481	15,68,580	Kota
21.	Nagaur	17,718	27,73,894	Nagaur
22.	Pali	12,387	18,19,201	Pali
23.	Sawai Madhopur	5,043	11,16,031	Sawai Madhopur
24.	Sikar	7,732	22,87,229	Sikar
25.	Sirohi	5,136	8,50,756	Sirohi
26.	Tonk	7,194	12,11,343	Tonk
27.	Udaipur	12,511	26,32,210	Udaipur
28.	Dausa	2,950	13,16,790	Dausa
29.	Baran	6,955	10,22,568	Baran
30.	Rajsamand	4,768	9,86,269	Rajsamand
31.	Hanumangarh	12,690	15,17,390	Hanumangarh
32.	Karoli	5,014	12,05,631	Karoli

SIKKIM

Area	: 7,096 sq km	Population	: 5,40,493
Capital	: Gangtok	Principal Languages	: Lepcha, Bhutia, Nepali and Limbu

HISTORY AND GEOGRAPHY

The early history of Sikkim starts in the 13th century with the signing of a blood-brotherhood treaty between the Lepcha Chief Thekong Tek and Tibetan prince Khye-Bumsa at Kabi Lungtsok in North Sikkim. This follows the historical visit of three revered saints to Yuksam in 1641 in west Sikkim where they met Phutsog Namgyal, a sixth generation descendant of Khye Bumsa, and formally consecrated him as the first Chogyal of Sikkim at Yuksam in 1642, thus heralding the beginning of the Namgyal dynasty in Sikkim. With the march of history, events in Sikkim saw the state pass democracy and become an integral part of the Indian Union in 1975.

Bounded by Bhutan in the east, Tibet in the north, Nepal in the west and the State of West Bengal in the south, Sikkim lies in the heart of the towering eastern Himalayas. Personally consecrated by Guru Padmasambhava during his sojourn to Tibet, Sikkim is a blessed land where people from all communities live in harmony. The world's third highest mountain, Khang-hen-dzo-nga, regarded as the guardian diety of Sikkim, dominates the tiny Himalayan State with its awe-inspiring beauty and majesty. Over 4,000 species of different plants and shrubs, around 700 species of rare orchids and rhododendrons and flowers of myriad hues and shapes have transformed Sikkim into a nature lover's paradise. Most of the 7,096 sq km of Sikkim consists of mountainous terrain, interspersed with ravines and green valleys. The two main rivers are Teesta and Rangit.

AGRICULTURE

The State's economy is basically agrarian. Maize, rice, wheat, potato, large cardamom, ginger and orange are the principal crops. Sikkim has the largest area and highest production of cardamom in India. Ginger, potato, orange and off-season vegetables are other cash crops. The area available for cultivation constitutes only 11 to 12 per cent of total land utilisation in the State, the scope of increasing production through area expansion is limited. The main thrust in agriculture development, therefore, has been to maximise productivity and net income per unit area. Emphasis is being laid on the development of commercial and horticulture crops and floriculture.

INDUSTRY

Sikkim has been declared industrially backward state. The Department of Industries lays emphasis on the promotion and development of various small scale industries. The Directorate of Handloom and Handicrafts at Gangtok provides training to youth in traditional arts and crafts.

There are three public sector undertakings in Sikkim. Sikkim Time Corporation (SITCO) is owned by the State government. In collaboration with IIMT it assembles watches, manufactures digital watches and M.I.C. chips. Sikkim Jewels Limited is one of the sophisticated and precision oriented industries for the manufacture of jewel bearings for electric meters, water

meters and other measuring instruments like watches and clocks. Ten ancillary units have been set up to manufacture watch jewels. Sikkim Industrial Corporation was established in March 1977 with twin functions of State Financial Corporation and Small Industries Development Corporation. It provides long-term loans for cottage, tiny, small and medium-scale industrial units, hotels, hospitals/nursing homes and taxis.

IRRIGATION AND POWER

During the Seventh Plan period many new irrigation schemes for providing assured water both for *kharif* and *rabi* cropping were taken up and to avoid damages to open channels due to landslide, concrete hume pipes and IIDPE pipes in sinking areas, were used extensively within this period. An additional irrigation potential of 6,359 hectares was created and a corresponding 5,530 hectares of potential was utilised. The State has initiated steps to prepare a master plan for irrigation in the entire State in collaboration with the Agriculture Finance Corporation. A 200 KW micro hydel scheme at Lachung in North Sikkim has been commissioned. Similar schemes were taken up during the Eighth Plan period. The total power potential of the State is about 8,000 MW.

TRANSPORT

Roads

Gangtok is connected by road with Darjeeling, Kalimpong, Siliguri and also with all the district headquarters within Sikkim. Road length in the state is 2,383 km.

Railways

The two closest railway stations are Siliguri (114 km) and New Jalpaiguri (125 km) connecting Kolkata, Delhi, Guwahati, Lucknow and other important cities.

Aviation

There is no airport in Sikkim. Bagdogra airport in West Bengal which caters to the state is 124 km from Gangtok. Bagdogra has regular Indian Airlines and Jet Airways services from Kolkata and Delhi and also the North-East.

FESTIVALS

Sikkim's population comprises the three principal ethnic communities of the Bhutias, the Lepchas and the Nepalese. *Maghey Sankranti*, *Durga Puja*, *Laxmi Puja* and *Chaite Dasai* are the main festivals celebrated by the Nepali community. *Pang-Lhabsol*, *Losoong* and *Losar* are celebrated by the Bhutia community. *Namsoong* and *Tendong Hlo Rum Faat* is celebrated by the Lepcha community.

TOURIST CENTRES

Some important tourist centres are Gangtok, Bakhim, Yumthang, Dubdi,

Dzongri, Varsey, Tashiding, Rumtek monastery, Pemayantse monastery, Tsomgo and Phodong monastery.

GOVERNMENT

<i>Governor</i>	: Kedar Nath Sahani	<i>Chief Secretary</i>	: S.W. Tenzing
<i>Chief Minister</i>	: Pawan Chamling	<i>Chief Justice</i>	: R. Dayal
<i>Speaker</i>	: Smt. Kalawati Subba	<i>Jurisdiction of High Court</i>	: Sikkim

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population (1991 Census)	Headquarters
1.	East	954	1,78,452	Gangtok
2.	North	4,226	31,240	Mangan
3.	South	750	98,604	Namchi
4.	West	1,166	98,161	Gyalshing

TAMIL NADU

<i>Area</i>	: 1,30,058 sq km	<i>Population</i>	: 6,21,10,839
<i>Capital</i>	: Chennai	<i>Principal Language</i>	: Tamil

HISTORY AND GEOGRAPHY

Tamil Nadu has a hoary antiquity. Though early *sangam* classics throw historical references, only from the Pallavas we pass to recorded history.

South India had remained under the hegemony of the Cholas, the Cheras and the Pandyas for centuries. The Pallavas held supremacy from about the second quarter of the fourth century AD. They were the originators of the famous Dravidian style of temple architecture. The last Pallava ruler was Aparajita in whose reign the later Cholas under Vijayalaya and Aditya asserted themselves by about the 10th century. At the end of the 11th century, Tamil Nadu was ruled by several dynasties like the Chalukyas, Cholas and Pandyas. In the two centuries that followed, the imperial Cholas gained paramountcy over South India.

Muslims gradually strengthened their position, which led to the establishment of the Bahamani Sultanate, by the middle of the 14th century. At the same time, the Vijayanagar kingdom quickly consolidated itself and extended its sway over the whole of South India and at the close of the century, Vijayanagar became the supreme power in South. However, it crumbled at the battle of Talikota in 1564 to the confederate forces of the Deccan Sultans.

Even during the period of the tumultuous confusion that followed the battle of Talikota, European commercial interest had appeared as rivals in the area of South India. The Portuguese, the Dutch, the French and the English came in quick succession and established trading centres known as 'Factories'. East India Company which had established their factory at Masulipatnam, now in Andhra Pradesh, in 1611 gradually annexed territories by encouraging enmity among the native rulers. Tamil Nadu was one of the first of British settlements in India. The State is the successor to the old Madras Presidency which in 1901 covered the bulk of the southern peninsula. The composite Madras State was later reorganised and the present Tamil Nadu was formed.

Tamil Nadu is bounded on north by Andhra Pradesh and Karnataka on west by Kerala, on east by the Bay of Bengal and on south by the Indian Ocean.

AGRICULTURE

Agriculture is the major occupation in Tamil Nadu. Total cultivated area in the State is 6.56 million hectares. The principal food crops include paddy, millets, *jowar*, *bajra*, *ragi*, maize and pulses. Commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chillies, gingely and groundnut. Plantation crops are tea, coffee, cardamom and rubber. Major forest produces are timber, sandalwood, pulp wood and fuel wood. Tamil Nadu occupies a premier position in the production and extensive application of bio-fertilizers. Efforts are on to improve farming technologies so as to increase yields in the low rainfall areas of the State. Annual foodgrains production exceeds ten million tonnes with rice contributing an average eight million tonnes.

INDUSTRY AND MINERALS

Major industries in the State are cotton, heavy commercial vehicles, auto components, railway coaches, power pumps, leather tanning industries, cement, sugar, paper, automobiles and safety matches.

Information Technology (IT) has become a thrust area in the industrial scene of Tamil Nadu. TIDEL, a software technology park, has been established in Tharamani, Chennai. Chennai has currently about 32,000 software professionals employed in 767 IT companies.

Global auto majors Hyundai Motors, Ford-Mahindra, Hindustan Motors and Mitsubishi have commenced production with expansion plans of Ashok Leyland and TAFE in Chennai.

Main mineral wealth of the state is granite, lignite, and limestone. The state is an important exporter of tanned skin and leather goods, yarn, tea, coffee, spices, engineering goods, tobacco, handicrafts and black granite. The strong engineering base consists of a network of nearly 3,000 units, employing a skilled workforce of more than 2.5 lakh. Tamil Nadu contributes to 70 per cent of the tannery industry in India. Leather exports during 2000-01 were

Rs 9,000 crore. Chennai Refinery Limited has given rise to several petro-based units. Major chemical and fertilizer plants have been established at Cuddalore and Tuticorin.

IRRIGATION

Important irrigation schemes implemented are : The Lower Bhavani, the Amaravathi, the Vaigai, the Parambikulam-Aliyar, the Sathanur, the Pullambadi-Kattalai high level canal, the Gumukhi Nadhi, Chithar Pattinamkal. Water Resources Consolidation Project is implemented to modernise large and medium irrigation schemes to enhance efficiency of irrigation by improving the canal system and for the early completion of nine irrigation projects.

POWER

The total installed capacity for electricity in the State is 7,825 MW. The installed capacity of State sector is 5,194 MW and that of Private sector 632 MW. The maximum demand met as on 4 May 2001 is 6,380 MW and the maximum energy consumption achieved as on 25 May 2001 is 132 MW. The peak demand contemplated is 6,300 to 6,400 MW. A demand of 7,668 MW is expected at the end of the Tenth Plan.

TRANSPORT

Roads

The length of roads network in Tamil Nadu is 1,50,095 km of which surfaced road is 60,506 km.

Railways

The total length of railways is 4,181 km and the main junctions being Chennai, Madurai, Tiruchirapalli, Coimbatore and Tirunelveli.

Aviation

Chennai being the international airport in the southern region, is the main centre of airline routes. Besides, there are airports at Tiruchirapalli, Madurai, Coimbatore and Salem.

Ports

Major ports in the State are Chennai and Tuticorin. There are seven other minor ports including Cuddalore and Nagapattinam.

FESTIVALS

Pongal: Pongal is the harvest festival celebrated by the farmers in January to worship the sun, the earth and the cattle as thanks giving for a bounteous harvest. Pongal festival is followed by the Jallikattu-Bull fight, Tamil Nadu style in some parts of southern Tamil Nadu. Alanganallur in Tamil Nadu is internationally famous for Jallikattu-Bull fight. Chithirai Festival Madurai:

Madurai brings a spectacular re-enactment of the marriage of the Pandiyan princess Meenakshi to Lord Sundareswarar. *Adipperukku*: *Adipperukku* is a festival celebrated on the 18th day of Tamil month, *Adi*, on the banks of rivers. It marks the commencement of new farming operations. Dance Festivals - Mamallapuram : Set before an open-air 'stage' created 13 centuries ago the incredible monolithic rock sculptures of the Pallavas, next to the sea in this ancient city of Mamallapuram, lovers of dance will be treated to a very unique and unforgettably aesthetic event *Bharatha Natyam*, *Kuchipudi*, *Kathakali* and *Odissi*, presented by the very best exponents of the art besides folk dances. *Natyanjali* Dance Festival: The temple city of Chidambaram pays special tribute to Lord Nataraja the 'Cosmic Dancer'. *Mahamagam* Festival: A holy festival that brings pilgrims to Kumbakonam once in 12 years - the temple city that gets its name from *Kumbha* - the divine pot. Summer Festival: The summer festival is held every year in the 'Queen of Hill Stations' the evergreen Ooty, the exquisite Kodaikkanal or the salubrious heights of Yercaud. *Kanthuri* Festival: A truly secular festival - where devotees flock to the shrine of saint Quadirwali. One of the descendants of the Saint is chosen as a *Peer* or spiritual leader and is honoured with offerings. On the tenth day of the festival, the Saint's tomb is annointed with sandalwood and later the holy sandal paste is distributed to everyone. *Velankanni* Festival: Wondrous legends surround the church, the most famous being that of the ship-wrecked Portuguese sailors, who in the 16th century, vowed to build a great shrine for the Virgin Mary, for saving their lives in a terrible storm. The *Velankanni* festival attracts thousands, clad in orange robes to the sacred spot where the ship landed. Equally famous are the Virgin Mary's miraculous healing powers - earning for the church the name "Our Lady of Lourdes of the East". *Navarathri* Festival: Literally, this means the festival of 'nine nights' taking unique and different forms in different states of India - all to propitiate the goddess *Sakthi*, for power, wealth and knowledge. *Karthigai Deepam*: Rows of glittering earthen lamps outside every home, and joyous burst of fire crackers mark Tamil Nadu's Festival of lights. Music Festival: In December, Chennai celebrates her priceless heritage of *carnatic* music and dance to present a galaxy of star artistes, old and new.

TOURIST CENTRES

Chennai, Mamallapuram, Poompuhar, Kancheepuram, Kumbakonam, Dharasuram, Chidambaram, Tiruvannamalai, Srirangam, Madurai, Rameswaram, Tirunelveli, Kanniyakumari, Thanjavur, Velankanni, Nagoor, Chithannavasal, Kazhugumalai (monument centres), Courtallam, Hogenakkal, Papanasam, Suruli (water-falls), Ooty (Udhagamandalam), Kodaikanal, Yercaud, Elagiri Kolli Hills (hill stations), Guindy (Chennai), Mudumalai, Anamalai, Mundanthurai, Kalakad (wildlife sanctuaries), Vedanthangal and Point Calimere (bird sanctuaries), Vandalur Zoological park near Chennai are some of the places of tourist interest.

GOVERNMENT

<i>Governor</i>	: Dr C. Rangarajan	<i>Chief Secretary</i>	: P. Shankar
<i>Chief Minister</i>	: O. Panneerselvam	<i>Chief Justice</i>	: N.K. Jain
<i>Speaker</i>	: K. Kalimuthu	<i>Jurisdiction of High Court</i>	: Tamil Nadu and Pondicherry

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Chennai	174	42,16,268	Chennai
2.	Kancheepuram	4,433	28,69,920	Kancheepuram
3.	Thiruvallur	3,424	27,38,866	Thiruvallur
4.	Vellore	6,077	34,82,970	Vellore
5.	Tiruvannamalai	6,191	21,81,853	Tiruvannamalai
6.	Cuddalore	3,999	22,80,530	Cuddalore
7.	Villupuram	7,217	29,43,917	Villupuram
8.	Salem	5,220	29,92,754	Salem
9.	Namakkal	3,429	14,95,661	Namakkal
10.	Dharmapuri	9,622	28,33,252	Dharmapuri
11.	Pudukottai	4,651	14,52,269	Pudukottai
12.	Erode	8,209	25,74,067	Erode
13.	The Nilgiris	2,549	7,64,826	Uthagamandalam
14.	Coimbatore	7,469	42,24,107	Coimbatore
15.	Trichirappalli	5,114	23,88,831	Trichirappalli
16.	Karur	2,896	9,33,791	Karur
17.	Perambalur	3,691	4,86,971	Perambalur
18.	Thanjavur	3,397	22,05,375	Thanjavur
19.	Nagapattinam	2,716	14,87,055	Nagapattinam
20.	Thiruvarur	2,161	11,65,213	Thiruvarur
21.	Madurai	6,565	25,62,279	Madurai
22.	Theni	2,889	10,94,724	Theni
23.	Dindigul	6,058	19,18,960	Dindigul
24.	Ramanathapuram	4,232	11,83,321	Ramanathapuram
25.	Sivagangai	4,086	11,50,753	Sivagangai
26.	Virudhunagar	4,288	17,51,548	Virudhunagar
27.	Tirunelveli	6,810	28,01,194	Tirunelveli
28.	Toothukudi	4,621	15,65,743	Toothukudi
29.	Kanniyakumari	1,685	16,69,763	Nagercoil
30.	Ariyalur	—	6,94,058	Ariyalur

Area for S.No.15, 16, 17, 21, 22 and 30 are subject to finalisation

TRIPURA

Area : 10,491.69 sq km	Population : 31,91,168
Capital : Agartala	Principal Languages : Bengali and Kokborak

HISTORY AND GEOGRAPHY

Tripura has a long historic past, its unique tribal culture and a fascinating folklore. The history of Tripura can be understood from 'Rajmala' chronicles of king Tripura and writings of other Mohammedan historians. There are references of Tripura even in *Mahabharata* and *Puranas*. According to 'Rajmala', the rulers were known by the surname 'Fa' meaning 'father'. There is a reference to rulers of Bengal helping Tripura kings in the 14th century. Kings of Tripura had to face frequent Mughal invasions with varying successes. They defeated the Mohammedan Sultans of Bengal in several battles. Nineteenth century marked the beginning of the modern era in Tripura when king Maharaja Birchandra Kishore Manikya Bahadur modelled his administrative set-up on the British India pattern and brought in various reforms. His successors ruled over Tripura till 15 October 1949 when it merged with the Indian Union. Initially, a part 'C' state and with the re-organisation of states in 1956, it became a Centrally administered territory. In 1972, this territory attained the status of a full-fledged state.

Tripura is strategically situated between the river valleys of Myanmar and Bangladesh. Encircled almost on three sides by Bangladesh, it is linked with Assam and Mizoram in the north-east.

IRRIGATION AND POWER

Total irrigated area in the State is 64,665 hectares. It is estimated that about 1.17 lakh additional hectares of land will be brought under irrigation scheme of which 13,000 hectares will be covered by the medium irrigation schemes, 66,000 hectares by the minor irrigation schemes and 38,000 hectares utilising ground water potential. With a 500 MW thermal power project at Melaghan being taken up under the NEEPCO it is expected to become a power-surplus state. Currently 56 MW is being generated from its own power plants. So far 815 villages have been electrified. Under the *Kutir Jyoti* programme the State provided power connections to 26,309 families under below-poverty line category during 2000-01. The State has undertaken work on Gas based projects with a total capacity of 42 MW at Rukhia and Baramura.

TRANSPORT

Roads

Total length of road in Tripura is 12,547 km of which major district roads are 454 km and other district roads are 1,463 km.

Railways

Total length of railway lines within the State is 44 km. It has been extended up to Kumarghat. Extension of railway line to Agartala has been taken up.

Aviation

The main airport Agartala is connected with Kolkata, Guwahati and Delhi. There are airports at Kailashahar and Kamalpur though they are not functioning at present.

TOURIST CENTRES

Important tourist centres are : Ujjayanta Palace, Jagannath Temple, Laxmi Narayan Temple, Uma Maheswari Temple, Benuban Vihar, State Museum, Rabindra Kanan (all at Agartala); 14-Goddess temple at Old Agartala, Brahmakunda, Kamala Sagar, Sepahijala Wildlife Sanctuary, Neermahal at Melaghar, Trishna Wildlife Sanctuary, Neermahal at Melaghar, Trishna Wildlife Sanctuary, Pilak in Belonia, Debtamura, Tirthamukh, Mandirghat, Dumboor Lake, Coconut Island at Dumboor Lake, Tripura Sundari Temple, Bhuwaneshwari Temple, Badarmokam and Paratia Reserve Forest at Udaipur, Kumarghat, Unakoti in Kailashahar and Jampui Hills. During 2000-2001, 2,42,036 domestic and 1,353 foreign tourists visited the state.

FESTIVALS

Makar Sankranti festival at Tirthamukh and Unakoti, Holi festival, Ashokashtami festival at Unakoti, Brahmakunda festival at Mohanpur, Rash festival, Bengali New Year's festival, Garia festival, Biju festival, Hozagiri festival, Boat Race and Mansa Mangal festival, Ker and Kharchi festival, Sarad festival, Diwali, Christmas at Jampui Hills, Buddha Purnima festival, etc., are celebrated.

GOVERNMENT

Governor	: Lt. Gen. K.M. Seth	Chief Secretary	: V. Thulasidas
Chief Minister	: Manik Sarkar	Jurisdiction of	: Falls under
Speaker	: Jitendra Sarkar	High Court	Guwahati High Court Agartala Bench

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	North Tripura	2,820.63	5,90,655	Kailashahar
2.	South Tripura	2,151.77	7,62,565	Udaipur
3.	West Tripura	2,996.82	15,30,531	Agartala
4.	Dhalai	2,552.47	3,07,417	Ambassa

UTTARANCHAL

Area	: 53,483 sq km	Population	: 84,79,562
Capital	: Dehradun (Provisional)	Principal Languages	: Hindi, Garhwali, Kumaoni

HISTORY AND GEOGRAPHY

Uttaranchal finds mention in the ancient Hindu scriptures as Kedarkhand, Manaskhand and Himavant. The Kushanas, Kunindas, Kanishka, Samudra Gupta, the Pauravas, Katuris, Palas, the Chandras and Pawaras and the British have ruled it in turns. It is often called the Land of the Gods (*Dev Bhoomi*) because of its various holy places and abundant shrines. The hilly regions of Uttaranchal offer unspoilt landscapes to the tourist-pilgrim.

The present State of Uttaranchal was earlier a part of the United Province of Agra and Awadh which came into existence in 1902. In 1935, the name of the State was shortened to the United Province. In January 1950, the United Province was renamed as Uttar Pradesh and Uttaranchal remained a part of Uttar Pradesh before it came into being on 9 November 2000, the 27th State of India.

Located in the foothills of the Himalayas, the State has international boundaries with China (Tibet) in the north and Nepal in the east. On its north-west lies Himachal Pradesh while on the south is Uttar Pradesh.

AGRICULTURE

About 90 per cent of the population of Uttaranchal depends on agriculture. The net cultivated area in the State is 12,61,915 hectares.

INDUSTRY AND MINERALS

The State is rich in mineral deposits like limestone, rock phosphate, dolomite, magnesite, copper greiphyte, soap stone, gypsum, etc. The number of small-scale industries is 41,216 with an investment of Rs 305.58 crore providing employment to 1,53,229 persons. One-hundred-and-ninety-one heavy industries with an investment of Rs 2,694.66 crore employ 50,802 persons. Most of the industries are forest-based.

IRRIGATION AND ENERGY

Agricultural land under irrigation is 5,19,806 hectares (year 1994-95) which is 56 per cent of the total agricultural land. The State has excellent potential for hydropower generation. There are a number of hydro-electric projects on the rivers Yamuna, Bhagirathi, Ganga, Ramganga and Sharda, generating electricity. Out of 15,669 villages, 12,315 villages have been electrified.

TRANSPORT

Roads

The total length of metalled roads in Uttaranchal is 16,652 km. The length of PWD roads is 12,706 km. The length of roads built by local bodies is 1,353 km and by other agencies 2,593 km.

Railways

The main railway stations are Dehradun, Haridwar, Roorkee, Kotdwar, Kashipur, Haldwani and Kathgodam.

Aviation

There are air strips at Jolly Grant (Dehradun), Pantnagar (Udham Singh Nagar) and Naini-Seni (Pithoragarh). Air strips at Gauchar (Chamoli) and Chinyalisaur (Uttarkashi) are under construction.

FESTIVALS

The world-famous *Kumbh Mela/Ardh Kumbh Mela* is held at Hardwar every twelfth/sixth year interval. Other prominent fairs/festivals are : Devidhura Mela (Champawat), Purnagiri Mela (Champawat), Nanda Devi Mela (Almora), Gauchar Mela (Chamoli), Baisakhi (Uttarkashi), Maga Mela (Uttarkashi), Uttaraini Mela (Bageshwar), Vishu Mela (Jaunsar Vavar), Peerane-Kaliyar (Roorkee), and Nanda Devi Raj Jat Yatra held every twelfth year.

TOURIST CENTRES

Prominent places of pilgrimage/tourist interests are Gangotri, Yamunotri, Badrinath, Kedarnath, Hardwar, Rishikesh, Hemkund Sahib, Nanakmatta, etc. Kailash Mansarovar Yatra can be performed through Kumaon region. The world-famous Valley of Flowers, Pindari Glacier, Roop Kund, Dayara Bugyal, Auli, and hill stations like Mussoorie, Dehradun, Chakrata, Nainital, Ranikhet, Bageshwar, Bhimtal, Kausani are the important places of tourist interest.

GOVERNMENT

<i>Governor</i>	: Surjit Singh Barnala	<i>Chief Secretary</i>	: Madhukar Gupta
<i>Chief Minister</i>	: Bhagat Singh Koshyari	<i>Chief Justice</i>	: A.A. Desai
<i>Speaker</i>	: Prakash Pant	<i>Jurisdiction of High Court</i>	: Uttaranchal

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Uttarkashi	8,016	2,94,179	Uttarkashi
2.	Chamoli	7,626	3,69,198	Gopeshwar
3.	Rudra Prayag	2,252	2,27,461	Rudra Prayag
4.	Tehri Garhwal	3,796	6,04,608	New Tehri
5.	Dehradun	3,088	12,79,083	Dehradun
6.	Pauri Garhwal	5,397	6,96,851	Pauri
7.	Pithoragarh	7,218	4,62,149	Pithoragarh
8.	Champawat	1,638	2,24,461	Champawat
9.	Almora	1,638	6,30,446	Almora
10.	Bageshwar	3,074	2,49,453	Bageshwar
11.	Nainital	2,311	7,62,912	Nainital
12.	Udhamsingh Nagar	4,767	12,34,548	Udhamsingh Nagar
13.	Hardwar	2,027	14,44,213	Hardwar

UTTAR PRADESH

Area	: 2,38,566 sq km	Population	: 16,60,52,859
Capital	: Lucknow	Principal Languages	: Hindi and Urdu

HISTORY AND GEOGRAPHY

The history of Uttar Pradesh is very ancient and interesting. It is recognised in the later Vedic Age as Brahmarshi Desha or Madhya Desha. Many great sages of the Vedic times like Bharadwaja, Gautam, Yagyavalkya, Vasishta, Vishwamitra and Valmiki flourished in this state. Several sacred books of the Aryans were also composed here. Two great epics of India, *Ramayana* and *Mahabharata*, appear to have been inspired by Uttar Pradesh.

In the sixth century BC Uttar Pradesh was associated with two new religions - Jainism and Buddhism. It was at Sarnath that Buddha preached his first sermon and laid the foundations of his order and it was in Kushinagar in Uttar Pradesh where Buddha breathed his last. Several centres in Uttar Pradesh like Ayodhya, Prayag, Varanasi and Mathura became reputed centres of learning. In the medieval period Uttar Pradesh passed under Muslim rule and led the way to new synthesis of Hindu and Islamic cultures. Ramananda and his Muslim disciple Kabir, Tulsidas, Surdas and many other intellectuals contributed to the growth of Hindi and other languages.

Uttar Pradesh preserved its intellectual excellency even under the British administration. The British combined Agra and Oudh into one province and called it United Provinces of Agra and Oudh. The name was shortened to the United Provinces in 1935. In January 1950 the United Provinces was renamed as Uttar Pradesh.

The State is bounded by Uttranchal and Himachal Pradesh in the north, Haryana in the west, Madhya Pradesh in the south and Bihar in the east. Uttar Pradesh can be divided into two distinct regions (i) Southern hills and (ii) Gangetic plain.

AGRICULTURE

Agriculture is the main occupation of 78 per cent of the population of the state. The net cultivated area in the state is 168.01 lakh hectares. Last year (till March 2000), the state produced 231.37 lakh metric tonnes of wheat, 113.87 lakh metric tonnes of rice, 22.68 lakh metric tonnes of pulses and 11.60 lakh metric tonnes of oilseeds and 1,163.03 lakh tonnes sugar cane. Total foodgrains production during 1999-2000 was 434.16 lakh metric tonnes.

INDUSTRY AND MINERALS

By the end of March 1998, there were 2,616 medium and large industrial undertakings with an investment of Rs 41,266.20 crore and employment opportunities for 7,38,582 persons. Besides, there were 4,05,158 small scale industrial units involving a total investment of Rs 4,001 crore and employment

opportunities for 15,69,892 persons. About 37.27 lakh tonnes of sugar was produced in the State. There were 68 textile units. Thirty-two automobile units with an investment of Rs 5,740 crore provided jobs to 20,280 persons.

It is planned to develop 102 sectors of New Okhla Industrial Development Authority (NOIDA) by the year 2011. The authority includes industrial sectors, housing sectors, group housing sectors, residential buildings, commercial assets and institutional sectors. Steps have been taken to develop other industrial areas in the State on the pattern of Noida and Greater Noida. A Software Technology Park has been set up in Kanpur while five more Software Parks are proposed to be set up.

Under the public sector, mining of limestone, magnesite, coal, rock phosphate, dolomite and silicon-sand is carried out. The bulk production of minor minerals and some of the major minerals like limestone, silica-sand, magnesite, pyrophyllite and diaspore is mostly with the private sector. Important mineral based industries include large cement plants in Sonbhadra.

IRRIGATION AND POWER

UP Power Corporation, UP State Power Generation and UP Hydel Power Corporation had been formed by reorganising UP State Electricity Board on 14 January 2000.

During 2001-02 an expenditure of Rs 2,094.5256 crore was made to raise the irrigation potential to a level of 267.99 lakh hectares. At the time of inception the total installed capacity of UPSEB, including thermal and hydro, was 2,635 MW which has now been raised to 5,414 MW (derated 5,885.75 MW).

TRANSPORT

Roads

The total road length in the State is 1,03,795 km. This includes 3,774 km of national highways, 7,392 km of state highways, 9,911 km of important district roads, 25,246 km of other district roads and 72,931 km of rural roads.

Railways

Lucknow is the main junction of the northern network. Other important railway junctions are Agra, Kanpur, Allahabad, Mughalsarai, Jhansi, Moradabad, Varanasi, Tundla, Gorakhpur, Gonda, Faizabad, Bareilly and Sitapur.

Aviation

There are airports at Lucknow, Kanpur, Varanasi, Allahabad, Agra, Jhansi, Bareilly, Hindon (Ghaziabad), Gorakhpur, Sarsawa (Saharanpur) and Fursatganj (Rae-Bareilly).

FESTIVALS

The biggest congregation, perhaps of the world, *Kumbha Mela* is held at Allahabad every twelfth year and *Ardh Kumbh Mela* every sixth year. *Magh Mela* is also held at Allahabad in January when the people come in large number to have a dip in the holy *Sangam*. Among other fairs is the fortnight long *Jhoola* fair of Mathura, Vrindavan and Ayodhya, when *dols* are placed in gold and silver *jhoolas* or cradles. A dip in the Ganga on *Kartik Poornamasi* is supposed to be the holiest and there are big congregations at Garhmukteshwar, Soran, Rajghat, Kakora, Bithur, Kanpur, Allahabad, Varanasi and Ayodhya. A famous cattle fair is held at Bateswar in Agra district. Dewa in Barabanki district has become famous because of the Muslim saint Waris Ali Shah. Besides, important festivals of the Hindus, Muslims, etc., are widely celebrated in the State.

TOURIST CENTRES

Uttar Pradesh has varied attractions for all kinds of tourists. Besides ancient places of pilgrimage like Varanasi, Vindhyachal, Ayodhya, Chitrakoot, Prayag, Naimisharanya, Mathura, Vrindavan, Dewa Sharief, Dargah of Sheikh Saleem Chishti in Fatehpur, Sarnath, Shravasti, Kushinagar, Sankisa, Kampil, Piprahwa and Kaushambi, places like Agra, Ayodhya, Sarnath, Varanasi, Lucknow, Jhansi, Gorakhpur, Jaunpur, Kannauj, Mahoba, Devgarh, Bithur, and Vindhyachal have rich treasures of Hindu and Islamic architecture and culture.

GOVERNMENT

<i>Governor</i>	: Vishnu Kant Shastri	<i>Chief Secretary</i>	: Ajay Prakash Verma
<i>Chief Minister</i>	: Rajnath Singh	<i>Chief Justice</i>	: Shyamal Kant Sen
<i>Speaker</i>	: Kesari Nath Tripathi	<i>Jurisdiction of High Court</i>	: Uttar Pradesh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1	2	3	4	5
1.	Agra	4,027	36,11,301	Agra
2.	Aligarh	3,431	29,90,388	Aligarh
3.	Etah	4,446	27,88,270	Etah
4.	Firozabad	2,361	20,45,737	Firozabad
5.	Mainpuri	2,746	15,92,875	Mainpuri
6.	Mathura	3,329	20,69,578	Mathura
7.	Hathras	2,060	13,33,372	Hathras
8.	Azamgarh	4,234	39,50,808	Azamgarh
9.	Ballia	2,981	27,52,412	Ballia

10.	Mau	1,713	16,49,294	Mau
11.	Kaushambi	2,015	12,94,937	Kaushambi
12.	Fatehpur	4,152	23,05,847	Fatehpur
13.	Pratapgarh	3,717	27,27,156	Pratapgarh
14.	Allahabad	5,246	49,41,510	Allahabad
15.	Chitrakoot	3,513	8,00,592	Chitrakoot
16.	Budaun	5,168	30,69,245	Budaun
17.	Bareilly	4,120	35,98,701	Bareilly
18.	Pilibhit	3,499	16,43,788	Pilibhit
19.	Shahjahanpur	4,575	25,49,458	Shahjahanpur
20.	Faizabad	2,015	20,87,914	Faizabad
21.	Ambedkarnagar	2,496	20,25,373	Akbarpur
22.	Bahraich	4,692	23,84,239	Bahraich
23.	Barabanki	4,402	26,73,394	Barabanki
24.	Gonda	3,788	27,65,754	Gonda
25.	Sultanpur	4,436	31,90,926	Sultanpur
26.	Gorakhpur	3,321	37,84,720	Gorakhpur
27.	Deoria	2,379	27,30,376	Deoria
28.	Kushinagar	2,874	28,91,933	Padarauna
29.	Maharajganj	2,951	21,67,041	Maharajganj
30.	Banda	4,171	15,00,253	Banda
31.	Hamirpur	4,095	10,42,374	Hamirpur
32.	Jalaun	4,565	14,55,859	Orai
33.	Lalitpur	5,039	9,77,447	Lalitpur
34.	Mahoba	3,071	9,77,447	Mahoba
35.	Jhansi	5,024	17,46,715	Jhansi
36.	Kanpur (Nagar)	3,015	41,37,489	Kanpur
37.	Kanpur (Dehat)	3,135	15,84,037	Akbarpur
38.	Farrukhabad	2,288	15,77,237	Fatehgarh
39.	Etawah	2,446	27,88,270	Etawah
40.	Lucknow	2,528	36,81,416	Lucknow
41.	Hardoi	5,986	33,97,414	Hardoi
42.	Lakhimpur Kheri	7,680	32,00,137	Kheri
43.	Rai Bareli	4,609	28,72,204	Rai Bareli
44.	Sitapur	5,743	36,16,510	Sitapur
45.	Unnao	4,558	27,00,426	Unnao
46.	Bulandshahar	3,458	29,23,290	Bulandshahar
47.	Meerut	2,564	30,01,636	Meerut
48.	Ghaziabad	1,988	32,89,540	Ghaziabad
49.	Gautam Buddha Nagar	1,501	11,91,263	Noida
50.	Moradabad	3,497	37,49,630	Moradabad
51.	Bijnor	4,561	31,30,586	Bijnor
52.	Rampur	2,367	19,22,450	Rampur
53.	Jyotiba Phule Nagar	2,470	14,99,193	Amroha

54.	Saharanpur	3,689	28,48,152	Saharanpur
55.	Muzaffarnagar	4,008	35,41,952	Muzaffarnagar
56.	Varanasi	1,550	31,47,927	Varanasi
57.	Jaunpur	4,038	39,11,305	Jaunpur
58.	Chandauli	2,485	16,39,777	Chandauli
59.	Ghazipur	3,377	30,49,377	Ghazipur
60.	St. Ravi Das Nagar	1,057	13,52,056	Bhadohi
61.	Mirzapur	4,522	21,14,852	Mirzapur
62.	Sonbhadra	6,788	14,63,468	Robertsganj
63.	Basti	2,752	20,68,922	Basti
64.	Balrampur	3,457	16,84,567	Balrampur
65.	Shravasti	2,186	11,75,428	Shravasti
66.	Siddharth Nagar	2,797	20,38,598	Navgarh
67.	Bagpat	1,345	11,64,388	Bagpat
68.	Kannauj	2,058	13,85,227	Kannauj
69.	Orraiya	2,054	11,79,496	Orraiya
70.	Sant Kabir Nagar	1,679	14,24,500	Khalilabad

WEST BENGAL

<i>Area</i> :	88,752 sq km	<i>Population</i>	: 8,02,21,171
<i>Capital</i> :	Kolkata	<i>Principal Language</i>	: Bengali

HISTORY AND GEOGRAPHY

Bengal finds a coveted place even in pro-historic times. At the time of Alexander's invasion a powerful kingdom called Gangaridai ruled over Bengal. Ascendancy of the Guptas and the Mauryas had somewhat little effect on Bengal. Later Sasanka became King of Bengal and is said to have played an important role in north-eastern India in the early half of the seventh century. He was succeeded by Gopala, who founded the Pala dynasty which ruled for centuries and had created a huge empire. The Palas were followed by the Sena dynasty which was ended by Muslim rulers from Delhi. Bengal was ruled by various Muslim rulers and governors till the Mughal period in sixteenth century.

After the Mughals, history of modern Bengal begins with the advent of European and English trading companies. Battle of Plassey in 1757 changed the course of history when the English first gained a strong foothold in Bengal and India. In 1905 it was partitioned to achieve some political returns but people's growing movement under the auspices of Congress led to the reunion in 1911. This triggered off hectic movement for freedom which culminated with Independence in 1947, and partition.

After 1947, the merger of native settlement began which ended with its final reorganisation in 1956 (as per Recommendations of the States Reorganisation Act, 1956) when some Bengali speaking areas of a neighbouring state were transferred to West Bengal.

The land frontiers of the State touch Bangladesh in the east and is separated from Nepal in the west, Bhutan lies in the north-east, while Sikkim is on the north. On the west are the states of Bihar, Jharkhand, while in the south lies Orissa, and the Bay of Bengal washing its southern frontiers.

AGRICULTURE

Agriculture plays a pivotal role in the State's income and nearly three out of four persons are directly or indirectly involved in agriculture. The total food production in the State in 1999-2000, was 14,845.6 thousand tonnes. During 1999-2000, the production of rice was 13,759.7 thousand tonnes, of wheat 850.8 thousand tonnes and of pulses 141.6 thousand tonnes respectively. The production of oilseeds during the same period was 405.9 thousand tonnes and of potato, 7,482.3 thousand tonnes. The production of jute was 7,593.7 thousand bales in 1999-2000.

INDUSTRY

In 2000 West Bengal received 341 investment proposals involving an investment of Rs 2,220.19 crore. In 2000 (up to November) 56 projects entailing an investment of Rs 7,570.39 crore were implemented.

Apart from commissioning of Rs 5,170 crore Haldia Petrochemical Project and the Rs 1,600 crore Mitsubishi Chemical Corporation's project for production of PTA a number of other industrial projects were implemented. These include Bhusal Industry's project to produce cold rolled steel sheet, Videocon International Limited's project for production of kitchen appliances, Corporate Ispat Alloy's project for manufacturing ferro-manganese, etc.

The Rs 1,600 crore Kolkata Mega City Project for development of Kolkata is being implemented. At present 87 projects with an estimated cost of Rs 682.51 crore are being implemented. The West Bengal Industrial Infrastructure Development Corporation (WBIIDC) has developed 12 industrial growth centres and proposes to set up another four growth centres at Falta, Uluberia, Haldia and Durgapur.

POWER AND IRRIGATION

Power in West Bengal is currently generated by the West Bengal Power Development Corporation Limited, West Bengal State Electricity Board, Calcutta Electric Supply Corporation, Durgapur Project Limited, Dishergarh Power Supply Corporation, etc. Total generation of power in the State was 12,208.96 MU in 2000-2001 (up to November 2000). The total number of *moujas* electrified during 2000-2001 (up to October 2000) is 29,609 and the total number of pump sets energised is 1,10,079. Under the *Kutirjyoti* and *Lokdeep* schemes 1,21,745 households were electrified up to 31 October 2000.

Irrigation potential created through major and medium irrigation projects in 1999-2000 was 1,429.70 thousand hectares. Work on three major irrigation projects—Kangsabati Reservoir Project, Barrage and Irrigation system of DVC and Teesta Barrage Project—is continuing. Up to 1999-2000 a cumulative irrigation potential of 99,110 hectares has been created through the Teesta Barrage Project. Till 1999-2000, 33.64 lakh hectares of minor irrigation potential was created in the State. It is anticipated that one lakh hectares of minor irrigation potential will be created in the State during 2000-01.

TRANSPORT

Roads

The length of roads as on 31 March 1997 was 76,040 km including 1,651 km national highways. The length of roads under state highways is 3,418 km, under PWD 12,288 km and that of the district roads is 31,064 km respectively.

Railways

The total length of railway route in the state was 3,802.82 km in 1998-99. Howrah, Asansol, Sealdah, Bandel, Bardhaman, Kharagpur and New Jalpaiguri are the main junctions.

Ports

Calcutta is the most important port followed by Haldia.

Aviation

International airport Dum Dum is located near Kolkata. Other airfields in the State are Balurghat, Coochbehar, Malda, Bagdogra, Panagarh, Behala, Barrackpore and Kalaikunda.

FESTIVALS

Durga Puja is the most important festival along with *Kali puja* or *Diwali* besides *Vasant Panchami*, *Lakshmi Puja*, *Holi*, *Sivaratri*, *Janmashami*, *Id-ul-Fitr*, etc.

TOURIST CENTRES

Important tourist centres are, among others Kolkata, Digha (Midnapore), Bakkhali Sea Resort, Sagar Island and Sundarbans (South 24-Parganas), Bandel, Tarakeswar, Kamarpukur (Hooghly) and Gadiara (Howrah), Shantiniketan and Bakreshwar (Birbhum), Durgapur (Burdwan), Mukutmanipur and Vishnupur (Bankura), Ayodhya Hills (Purulia), Murshidabad, Gour and Pandua (Malda), Darjeeling, Mirik, Kalimpong, Sandakfu and Falut and Kurseong (Darjeeling), Jaldapara and Dooars (Jalpaiguri).

GOVERNMENT

<i>Governor</i>	: Viren J. Shah	<i>Chief Justice</i>	: Ashok Mathur
<i>Chief Minister</i>	: Buddhadeb Bhattacharya	<i>Chief Secretary</i>	: Manish Gupta
<i>Speaker</i>	: Hasim Abdul Halim	<i>Jurisdiction of High Court</i>	: West Bengal and Andaman and Nicobar Islands

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Bankura	6,882	31,91,822	Bankura
2.	Bardhaman	7,024	69,19,698	Bardhaman
3.	Birbhum	4,545	30,12,546	Suri
4.	Kolkata	185	45,80,544	Kolkata
5.	Darjeeling	3,149	16,05,900	Darjeeling
6.	Howrah	1,467	42,74,010	Howrah
7.	Hooghly	3,149	50,40,047	Chinsurah
8.	Jalpaiguri	6,227	34,03,204	Jalpaiguri
9.	Coochbehar	3,387	24,78,280	Coochbehar
10.	Malda	3,733	32,90,160	English Bazar
11.	Medinipur	14,081	96,38,473	Medinipur
12.	Murshidabad	5,324	58,63,717	Berhampore
13.	Nadia	3,927	46,03,756	Krishnagar
14.	North 24 Parganas	4,094	89,30,295	Alipore
15.	South 24 Parganas	9,660	69,09,015	Barasat
16.	Purulia	6,259	25,35,233	Purulia
17.	Uttar Dinajpur	3,140	24,41,824	Raigunj
18.	Dakshin Dinajpur	2,219	15,02,647	Balurghat

ANDAMAN AND NICOBAR ISLANDS

<i>Area</i>	: 8,249 sq km	<i>Population</i>	: 3,56,265 (provisional)
<i>Capital</i>	: Port Blair	<i>Principal Languages</i>	: Hindi, Nicobarese, Bengali, Malayalam, Tamil, Telugu

HISTORY AND GEOGRAPHY

The Andaman and Nicobar Islands, an Union Territory, are situated between 6° and 14° North Latitude and 92° and 94° East Longitude. The group of 572 islands/ islets lies in the Bay of Bengal, 193 km from Cape Negaris in Burma (Myanmar), 1,255 km from Kolkata and 1,190 km from Chennai. Two principal groups of islets are Ritchie's Archipelago and Labyrinth Islands. The Nicobar Islands are situated to the south of Andamans, 121 km from Little Andaman island. There are 36 inhabited islands, including 24 in the Andaman district and 12 in the Nicobar district.

The original inhabitants of the islands lived in the forests on hunting and fishing. There are four Negrito tribes, *viz.*, the Great Andamanese, Onge, Jarawa and Sentinalese in the Andaman group of islands and two Mongoloid tribes, *viz.*, Nicobarese and Shompens in the Nicobar group of islands. Sentinalese are still hostile. They are still keeping a separate entity and have not yet learnt the concept of covering their bodies.

The modern history of the Andaman and Nicobar Islands begins with the establishment of a settlement by East India Company in 1789. However, in 1796 this settlement was abandoned. Following the first war of Indian Independence in 1857, the British India Government founded the penal settlement in these islands in 1858, primarily known as *Kalapani*, for the deportation of freedom fighters from the mainland India, which continued till the second World War. During the Second World War, the Japanese forces occupied the Andaman and Nicobar Islands in 1942. Further following the surrender of the Japanese forces in the Second World War, the British India Government reoccupied these islands in 1945 and continued their administration till the Independence of the country in 1947.

AGRICULTURE

A total of 48,675 hectares of land is used for agriculture purposes. Paddy, the main food crop, is mostly cultivated in Andaman group of islands, whereas coconut and arecanut are the cash crops of Nicobar group of islands. Field crops, namely, pulses, oilseeds and vegetables are grown, followed by paddy during *Rabi* season. Different kinds of fruits such as mango, sapota, orange, banana, papaya, pineapple and root crops are grown on hilly land owned by farmers. Spices, *viz.*, pepper, clove, nutmeg, and cinnamon are grown under multi-tier cropping system. Rubber, red oil, palm and cashew are grown on a limited scale in these islands.

FORESTS

Forests cover 7,171 sq km of the total area of the islands. Many types of forests are found in the islands, such as giant evergreen, hill-top evergreen, moist, deciduous, littoral, mangrove and swamp forest. A large variety of timbers are found in the Andaman group of islands. The most valuable timbers are padauk and gurjan. These species are not found in Nicobar.

INDUSTRY

There are 1,374 registered small scale, village and handicrafts units. Two units are export oriented in the line of fish processing activity. Apart from this, there are shell and wood based handicraft units. There are also four medium sized industrial units. SSI units are engaged in the production of polythene bags, PVC conduit pipes and fittings, paints and varnishes, fibre glass and mini flour mills, soft drinks and beverages, etc. Small scale and handicraft units are also engaged in shell crafts, bakery products, rice milling, furniture making, etc. The Andaman and Nicobar Islands Integrated Development Corporation has spread its wings in the field of tourism, fisheries, industries and industrial financing and functions as authorised agents for Alliance Air/Jet Airways.

TRANSPORT

The islands are accessible both by air and sea. Alliance Air is operating between Kolkata and Port Blair as well as between Chennai and Port Blair. Jet Airways operates between Chennai and Port Blair only. The Directorate of Shipping Services runs shipping services connecting Port Blair with Kolkata, Vishakhapatnam and Chennai. It also maintains a regular inter-island, fore-shore and harbour ferry services to cater to the needs of inter-island commuters.

The state transport has extended its service to 11 major islands of this Union Territory right from Diglipur in the north to Campbell Bay in the south. Andaman Trunk Road service has been introduced to connect Port Blair with Rangat, Mayabunder and Diglipur with trans-shipment service by providing three ferry boats, covering a distance of 272 km.

TOURISM

The Emerald Isles, Andaman and Nicobar Islands are the place of historical importance as well as paradise for eco-friendly tourists. Covered with dense forest and endless variety of exotic flora and fauna, these islands have lovely beaches and charming under-water corals and marine life. Important places of tourist interest are : Places connected with freedom struggle like Viper island, Ross island and the Cellular Jail - National Memorial; Anthropological Museum; Marine Museum; Water Sports Complex; Gandhi Park; Mahatma Gandhi Marine National Park; Islands like Havelock, Neil, Jolly Buoy, Cinque, Red Skin, Middle and North Andamans; Beaches like Corbyn's Cove, Radha Nagar, Cutbert Bay, Karmatang (both Turtle nesting areas), Ross & Smith, etc. Best tourist season is during October to May.

GOVERNMENT

Lt. Governor : N.N. Jha

Chief Secretary : Balbir Singh

Jurisdiction of High Court : Falls under the jurisdiction of Calcutta High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Andaman	6,408	3,14,239	Port Blair
2.	Nicobar	1,841	42,026	Car Nicobar

CHANDIGARH

Area : 114 sq km

Population : 8.76 lakh

Capital : Chandigarh

Languages : Hindi, Punjabi, English

HISTORY AND GEOGRAPHY

Chandigarh nestles in a picturesque setting in the foothills of Shivalik hills and enjoys the popular epithet the City Beautiful. Representative of modern architecture and town planning, the city is a creation of the French architect, Le Corbusier. Chandigarh and the area surrounding it were constituted as a Union Territory on 1 November 1966. It serves as the joint capital of both Punjab and Haryana states. It is bounded on north and west by Punjab and on the east and south by Haryana.

AGRICULTURE

The cultivated area of UT Chandigarh is about 1,515 hectares and irrigated area 1,450 hectares. Wheat, fodder crops and vegetables are the major crops.

INDUSTRY

There are 15 large and medium and about 3,026 small scale industrial units offering employment to about 29,400 persons. Goods to the tune of Rs 60 crore are exported annually. The neighbouring states have developed industrial estates right next to the city. As a result industries have been set up on a large scale in Parwanoo, Baddi, Derabassi, Mohali and Panchkula. The administration has revised its policy regarding provision of power to the industrial units. Under the Prime Minister's *Rozgar Yojana* 64 beneficiaries were sanctioned loans during 1999-2000.

POWER

Chandigarh gets power from neighbouring states and Central generation projects to meet its power requirement. It has 3.5 per cent share of total power generation of Bhakra complex. Further the firm allocation is 82.9 MW, out of thermal, nuclear and gas based Central generation projects. The shortfall is being met through ad hoc allocation from BBMB besides Central projects. All the villages around the city stand electrified and have been extended the facility of public lighting.

TRANSPORT

The length of national highways is 15.275 km. Chandigarh is well connected by rail, road and air.

TOURIST CENTRES

Important tourist centres are Rock Garden, Rose Garden, Sukhna Lake, Museum and Art Gallery, City Museum, Tower of Shadows, Geometric Hill Museum of Evolution, Kala Gram, Log Huts, Nepli Forests, Fitness Trails (in Leisure Valley), National Gallery of Portraits, Central Piazza, International Doll Museum and Smriti Upvan.

GOVERNMENT

Administrator	:	Lt. Gen. (Retd) J.F.R. Jacob
Jurisdiction of	:	Falls under jurisdiction of
High Court	:	Punjab and Haryana High Court

DADRA AND NAGAR HAVELI

Area	:	491 sq km	Population	:	2,20,451
Capital	:	Silvassa	Principal Languages	:	Gujarati, Hindi

HISTORY AND GEOGRAPHY

After prolonged skirmishes between the Portuguese and Marathas, on 17 December 1779, the Maratha Government assigned the aggregated revenue of Rs 12,000 in a few villages of this territory to the Portuguese as compensation to ensure their friendship. The Portuguese ruled this territory until its liberation on 2 August 1954. Subsequently the administration was carried on for some time by an administrator. The territory was merged with the Indian Union on 11 August 1961 as a Union Territory. Since liberation of the territory from Portuguese rule a *Varishtha Panchayat* was working as an advisory body of the administration, which was, however, dissolved in August 1989 and Pradesh Council for Dadra and Nagar Haveli was announced. Subsequently Dadra and Nagar Haveli District Panchayat and 11 Village Panchayats were constituted as per Constitutional amendments at all India level.

The Union Territory is surrounded by Gujarat and Maharashtra. It consists of two pockets, namely, Dadra and Nagar Haveli. There are 72 villages of which one village which was almost uninhabited submerged and four others are partly submerged due to construction of Damanganga Irrigation Project which is a joint venture of Union Territory of Dadra and Nagar Haveli, Daman and Diu and Gujarat State. The nearest railway station at Vapi is 18 km from Silvassa.

AGRICULTURE

Dadra and Nagar Haveli, a predominantly rural area having about 79 per cent population of tribals has about 23,627 hectares under cultivation. Major crop is paddy (*Kharif*) while Nagli and other hill-millets are crops of the area. Among fruits mango, chiku and banana are produced. Forests cover 40 per cent of the total geographical area. The tribal population depends primarily on forests and has been given exclusive rights for collection of minor forest produce free of cost.

INDUSTRY

Prior to 1965-66 a few traditional craftsmen used to make pots, leather items, viz., *chappals*, shoes, and items of bamboo. Industrial development started

on a low-key during 1967-68 with the establishment of an industrial estate under the cooperative sector by *Dan Udyog Sahakari Sangh Limited*. Thereafter, three government industrial estates have been developed at Silvassa, Masat and Khadoli. By March 2001 there were 1,180 industries which include cottage, village and small scale industries and 330 medium-scale industries in textiles, engineering, plastics, electronics, chemicals, pharmaceuticals etc., employing more than 32,000 persons and producing goods worth over Rs 2,746 crore.

IRRIGATION AND POWER

Prior to liberation of the territory, there was no irrigation facility. Later on adequate steps were taken and 118 lift irrigation schemes were completed at various places in the territory. A multiple irrigation project Damanganga is also in its final stages. Power is made available from the Central sector power generating stations located in the Western region and the entire territory is electrified.

TRANSPORT

The Union territory does not have its own road transport system. It avails of Gujarat and Maharashtra states transport system. Total road length is about 545.45 km of which 519.79 km is surfaced. Sixty-eight villages are connected with all weather roads. Rail route from Mumbai to Ahmedabad links Vapi also. Mumbai is the nearest airport.

TOURISM

Tourism sector has been assigned a high priority keeping in view the deep forest area and favourable climate. The prominent places of tourist interest are Tadkeshwar Shiva Mandir, Bindrabin, Deer park Khanvel, Vanganga lake and island garden, Dadra, Vanvihar Udhyan, Mini Zoo, Bal Udhyan, Tribal Museum and Hirvavan garden at Silvassa. The development of water sports at Dudhani has been completed and Khadia Van Resort at Luhari is in full swing. Economy-class tourist accommodation *Yatri Niwas* at Silvassa has been made operational.

FESTIVALS

Normally all festivals of Hindus, Muslims and Christians are celebrated in the territory. Tribals celebrate their own festivals. *Diwaso* is celebrated by Dhodia and Varli tribes and *Raksha Bhandhan* is celebrated by Dhodia. Other festivals include *Bhawada* amongst Varlis and Koli tribes and *Khali Puja* by all tribes after harvesting of crops and *Gram Devi* before harvesting of crops.

GOVERNMENT

Administrator	: O.P. Kelkar
Jurisdiction of High Court	: Falls under the jurisdiction of the Mumbai High Court

DAMAN AND DIU

<i>Area</i> : 112 sq km	<i>Population</i> : 1,58,059
<i>Capital</i> : Daman	<i>Principal Language</i> : Gujarati

HISTORY AND GEOGRAPHY

Daman and Diu along with Goa was a colony held by the Portuguese even after Independence. In 1961, it was made an integral part of India. After conferring statehood on Goa on 30 May 1987, Daman and Diu was made a separate Union Territory. Daman lies about 193 km away from Mumbai. It is bound on the east by Gujarat, on the west by the Arabian Sea, on the north by the Kolak river and on the south by Kalai river. The neighbouring district of Daman is Valsad in Gujarat. Diu is an island connected by two bridges. The neighbouring district of Diu is Junagadh of Gujarat.

AGRICULTURE AND IRRIGATION

Total area under irrigation is 1,121.03 hectares. Important field and garden crops are paddy, *ragi*, *bajra*, *jowar*, groundnut, pulses and beans, wheat, banana, sapota, mango, coconut and sugarcane. There are no major forests in the territory.

INDUSTRY AND POWER

There are 1,600 small scale and medium scale industries in Daman and Diu. Two industrial areas have been developed by Omnibus Industrial Development Corporation at Daman. The other industrial areas are Dabhel, Bhimpore and Kadaiya. All villages have been electrified. Daman and Diu have got adequate power allocation from Central sector power stations in western region. At Daman there are three 66/11 KV sub-stations at Kachigam, Dalwada and Dabhel each of 30 MVA. In Diu there is one sub-station of 10 MVA.

TRANSPORT*Roads*

The total length of roads in Daman and Diu is 191 km.

Railways

There is no railway link with Daman and Diu. The nearest railway station from Daman is Vapi on western railway on Mumbai-Delhi route. The nearest railway station from Diu is Delvada on metre-gauge.

Aviation

There are airports both in Daman and Diu. Diu has been connected by air and there is regular air service from Mumbai to Diu.

TOURIST CENTRES

Important tourist places in Daman are Devka Beach, Jampore Beach, Daman Ganga Garden, Kachigam, Satya Sagar Udhyan, Dalwada, Kadaiya Lake

garden, Nani Daman Jetty garden, old churches, forts, Light House and Summer House. Jullandhar Beach, Nagoa Beach and Children's park at Ghoghla are some of the tourist centres in Diu.

GOVERNMENT

Administrator	:	O.P. Kelkar
Collector	:	A.K. Singh

Presently there is a common High Court for Maharashtra and Goa and Union Territories of Daman and Diu and Dadra and Nagar Haveli, at Mumbai.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Daman	72	1,13,949	Daman
2.	Diu	40	44,110	Diu

DELHI

Area	:	1,483 sq km	Population	:	1,37,82,976
Capital	:	Delhi	Principal Languages	:	Hindi, Punjabi, and Urdu

HISTORY AND GEOGRAPHY

Delhi finds prominent reference right from the times of the epic *Mahabharata*. Delhi went on passing from one kingdom to another, beginning with the Mauryas, Pallavas, Guptas of Central India, and then to the Afghan and the Muslim invaders for about four centuries, and finally, to the Mughals in the 16th century. In the latter half of the 18th century and early 19th century, the British rule engulfed Delhi and in 1911, it was the centre of all activities. After 1947, it became the capital of India and was made a Union Territory in 1956. Lying in the northern part of the country, Delhi is surrounded by Haryana on all sides except the east where it borders with Uttar Pradesh. In the history of Delhi, the 69th Constitutional amendment is a milestone as Delhi got a Legislative Assembly with the enactment of the National Capital Territory Act, 1991.

AGRICULTURE

The principal food crops are wheat, *bajra*, *jowar*, gram and maize. However, emphasis has now shifted from food crops to vegetables and fruit crops, dairy, poultry farming, etc., as these are more remunerative than food crops in the territory.

INDUSTRY

Delhi is not only the largest commercial centre in northern India but also the

largest centre of small industries. These are manufacturing a wide variety of items like television, tape recorders, light engineering machines and automobile parts, sports goods, bicycles and PVC goods including footwear, textiles, fertilizers, medicines, hosiery, leather goods, software, etc.

Delhi's new millennium industrial policy, emphasises setting up of High-tech and sophisticated industries in electronics, tele-communications, software industries, IT enabling services, etc. The industries, which are non-polluting and encourage high-value addition and depend largely on skilled manpower will be promoted.

For the purpose of relocating industrial units functioning in residential non-conforming areas, the government of National Capital Territory of Delhi took possession of 1,065 acres of land at villages Bawana, Holambi Kalan and Holambi Khurd for developing new industrial estates. Work of construction of 378 flatted factories at Jhilmil Industrial Area for relocation of smaller units has been completed.

IRRIGATION AND POWER

Due to fast urbanisation taking place in the rural areas of Delhi, cultivable command area under irrigation is getting reduced day by day. Two schemes namely, 'Keshopur Effluent Irrigation Scheme Phase-III' and 'Improvement and extension of effluent irrigation system from Coronation Treatment Plant' are under execution. Irrigation of about 350 hectares with 52 state tubewells and 1,376 hectares from effluent water is being provided in the rural areas of NCT of Delhi. In addition about 4,900 hectares of land is being irrigated from western Yamuna Canal network under the Haryana Government.

The power demand of Delhi has touched an all time record of 2509 MW. The firm availability of power to Delhi Vidyut Board (DVB) from its own generating units at Rajghat Power House, IP Station and Gas Turbines including Badarpur Thermal Power Station is of the order of 850-900 MW. The remaining power is drawn from Northern Regional Grid. DVB has envisaged a number of generating projects to be taken up during the Ninth Plan. These include Bawana Phase-I, Bawana Phase-II and Pragati Combined Cycle Power Project to be established at Indraprastha Estate. A 330 MW Pragati Power Project under construction is scheduled to be completed by November 2002.

TRANSPORT

Delhi is well connected by roads, rail and air with all parts of India. It has three airports, Indira Gandhi International Airport for the international flights, Palam Airport for national air services and Safdarjung Airport for training purposes. It has three important railway stations, Delhi Junction, New Delhi Railway station and Nizamuddin Railway station. Delhi has three Inter-State Bus Terminals at Kashmere Gate, Sarai Kale Khan and Anand Vihar.

Keeping in view the rising vehicular pollution and chaotic traffic condition in the city of Delhi, the Government of India decided to introduce a Mass Rapid Transit System (MRTS) in Delhi. The MRTS project with an estimated cost of Rs 8,000 crore will be implemented with broad-gauge. The project is under implementation and is using the state-of-the-art modern technology.

FESTIVALS

Being a cosmopolitan city, all major festivals of India are celebrated here. Moreover, some tourism festivals have become regular annual events of Delhi. Delhi Tourism and Transportation Development Corporation organises Roshnara Festival, Shalimar Festival, Qutab Festival, Winter Carnival, Garden Tourism and Mango Festival every year.

TOURIST CENTRES

Important tourist centres are Lal Quila (Red Fort), Jama Masjid, Qutab Minar, India Gate, Laxmi Narayan Mandir (Birla Mandir), Humayun's Tomb, Lotus Temple, etc. Delhi State Tourism and Transportation Development Corporation conducts city sight-seeing and excursion tours. The Corporation has also introduced adventure tourism activities such as para-sailing, rock-climbing and boating in Delhi. It is also running five Coffee Homes.

GOVERNMENT

<i>Lt. Governor</i>	: Vijay Kapoor	<i>Chief Secretary</i>	: P.S. Bhatnagar
<i>Chief Minister</i>	: Smt Sheila Dixit	<i>Chief Justice</i>	: Satyabrata Sinha
<i>Speaker</i>	: Ch. Prem Singh	<i>Jurisdiction of</i>	: Delhi
<i>Mayor</i>	: Shanti Desai	<i>High Court</i>	

LAKSHADWEEP

<i>Area</i>	: 32 sq km	<i>Population</i>	: 60,595
<i>Capital</i>	: Kavaratti	<i>Principal Language</i>	: Malayalam

HISTORY AND GEOGRAPHY

Not much is known of the early history of these islands. The islands supposed to have been inhabited first are Amini, Kalpeni, Andrott, Kavaratti and Agatti. It was earlier believed that the islanders were originally Hindus and converted to Islam under the influence of Arab traders sometime in the 14 century. But archaeological evidence recently unearthed indicates that there were Buddhist settlements around the sixth or seventh century and the earliest Muslim converts or settlers pre-date the year 139 AH of the Hijra year (eighth century) of which date gravestones have recently been discovered in Agatti. This would

tend to bear out the traditional belief that Islam was brought to the islands by the Arab Saint, Ubaidulla in 41 AH.

Probably independent till the 16 century the islands were driven to seek the assistance of Raja of Chirakkal to help rid them of the Portuguese attempt to establish domination. This enabled him to establish his authority and, later, the islands were transferred in *jagir* to Ali Raja, head of Moplah community in Cannanore, who later became an independent ruler himself. The Arakkal rule was not popular, and in 1787, Tipu Sultan acceded to the petitions of northern islanders to annex these islands. After the fall of Tipu Sultan, the islands were passed to East India Company but continued to be ruled *de facto* by the rulers of Cannanore till their ultimate annexation by the British in the early 20 century. In 1956, the islands were constituted into a single territory, and since then, have been directly administered by the Union Government through an Administrator. The Laccadives, Minicoy and Amindivi group of islands were renamed as Lakshadweep in 1973. Lakshadweep, a group of coral islands consist of 12 atolls, three reefs and submerged sand banks. Of the 36 islands, only 11 are inhabited. These lie scattered in the Arabian Sea about 280 km to 480 km off Kerala coast between 8° and $12^{\circ} 3'$ north latitude and 71° and 74° east longitude.

AGRICULTURE

Coconut is the only major crop with a production of 27.7 million nuts per year. Area under cultivation is about 27.50 sq km.

FISHERIES

Fishing is another major activity. The sea around the island is highly productive. The islands stand first in the country in per capita availability of fish.

INDUSTRY

Coconut fibre extraction and conversion of its fibre products is the main industry in the Islands. Under government sector there are seven coir fibre factories, seven coir production-cum-demonstration centres and four fibre curling units, functioning under coir sector. These units produced coir fibre and coir yarn in addition to other coir products like curled fibre, corridor mat, mat and mattings. Small coir units are also functioning under private sector in different islands.

TRANSPORT

MV Tipu Sultan, MV Bharath Seema and MV Dweep Setu carry passengers to and from the islands to Cochin and Bepore ports, MV Ubaidulla, MV Thinnakara, MV Laccadives and MV Cheriyaam carry cargo to islands from mainland. MV Suheli 60 MT oil barge is mainly utilised for providing bunker (fuel) to inter island tarry vessels. Kadeeja Beevi and Humeedath Bi ply

between all islands other than Minicoy. Besides there is an island to island and island to mainland helicopter service. Indian Airlines connects Agatti and Kochi daily and Agatti and Goa twice weekly.

TOURIST CENTRES

Tourism is developing into an important industry. Important tourist places are Agatti, Amini, Bangaram, Bitra, Cheriyam, Kadmat, Kavaratti, Minicoy, Suheli, etc.

GOVERNMENT

Administrator : K.S. Mehra

Jurisdiction of High Court : Falls under jurisdiction of Kerala High Court

PONDICHERRY

Area : 480 sq km *Population* : 9,73,929

Capital : Pondicherry *Principal Languages* : Tamil, Telugu, Malayalam, English and French

HISTORY AND GEOGRAPHY

The territory of Pondicherry comprises the former French establishment Pondicherry, Karaikal, Mahe and Yanam which lie scattered in South India. Pondicherry, the capital of the territory was once the original headquarters of the French in India. It was under the French rule for 138 years and merged with the Indian Union on 1 November 1954. It is bounded on the east by the Bay of Bengal and on the three sides by Tamil Nadu. About 150 km south of Pondicherry on the east coast lies Karaikal. Mahe is situated on the Malabar coast on the Western ghats surrounded by Kerala. It can be reached from Calicut Airport which is 70 km from Mahe. Yanam is situated adjoining the East Godavari district of Andhra Pradesh and is about 200 km from Visakhapatnam airport.

AGRICULTURE

Nealy 45 per cent of the population of the Union Territory is engaged in agriculture and allied pursuits. Ninety per cent of the cultivated area is irrigated. Paddy is the predominant crop followed by pulses. Mahe region contributes to the plantation wealth of this Territory. Crops like coconuts, arcanuts, condiments and spices are grown here. Pulses, groundnut and chillies are the other rainfed crops grown in Yanam. During 2000-01, 27,972 hectares had been cultivated under rice.

INDUSTRY

With an investment of over Rs 1,429 crore, 6,607 industries are providing employment to 77,341 persons as on 31 March 2001. The number of industrial

units registered up to May 2001 is 6,634 units. The total value of production from these industrial units works out to Rs 9,141.34 crore. The industrial units are manufacturing items such as textiles, computers and peripherals, UPS and other electronic products, consumer durables, fast moving consumer goods, pharmaceuticals, leather goods, earth moving equipments, sugar, yarn, spirit, beer, potassium chlorate, rice-bran oil, auto parts, disposable syringes, roofing sheets, washing machines, bio-polymers, steel tubes, LPG cylinders, etc. The export value of various products manufactured by the industries was Rs 307.31 crore during 1999-2000.

IRRIGATION

Irrigation in Pondicherry is mainly through tanks and tubewells. There are 84 tanks with an ayacut of 6,456 hectare of which two are comparatively bigger (Oustery and Bahour). In addition, there were 84 surface water storage irrigation tanks with a total command area of 6,765 ha. and with a water holding capacity of 46.4 mcm. There were also 140 small tanks for harvesting surface water. The number of borewell has increased to about 7,000 from nearly 1,000 in the early sixties. Nearly 90 per cent of the net cropped area is now under irrigation. During 2001-02, 13 tanks have been identified for rehabilitation and community organising works have been completed in 12 tanks.

POWER

The power requirements of Pondicherry are met by availing share from the Central generating stations and by purchasing power from neighbouring State Electricity Boards. A combined Cycle Gas Power Plant of 32.5 MW at Karaikal is under operation since January 2000. The T.R. Pattinam 110/11 KV Sub-station associated with Gas Power Plant was commissioned in July 1997. One 110/22 KV sub-station at Thethampakkam was commissioned on 24 January 2001. A 230 KV line from Neyveli to Bahour was commissioned in June 2001 which is a second source of supply to the 230/110 KV Bahour Auto sub-station.

TRANSPORT

Roads

The total length of roads stands at 2,292 km of which 1,977 km are rural roads and 315 km urban roads. All villages of Pondicherry are connected by motorable roads.

Railways

Pondicherry is connected to Chennai by metre-gauge and the nearest broad-gauge link is Villupuram junction at a distance of 40 km.

Aviation

The nearest main airport Chennai is 160 km from Pondicherry.

TOURISM

Pondicherry has a rich French cultural heritage, having been the capital of the French Colonies in India since the 17th century. The French legacy is visible in the well-planned town, neatly laid roads, wide and vibrant beaches, beautiful promenade, architecturally imposing churches and public buildings and the Gandhi Square, Statues of Joan of Arc and Joseph Francois Dupliex. War memorial, French Boulevard town, Sri Aurobindo Ashram, Auroville Museum, Chunnambar resort, Botanical Garden are some other places of tourist interest.

GOVERNMENT

Governor	: Dr (Smt.) Rajani Rai	Chief Secretary	: T.T. Joseph
Chief Minister	: N. Rangaswamy	Jurisdiction of	: Falls under jurisdiction
Speaker	: D. Ramachandran	High Court	of Madras High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Pondicherry	290	7,35,004	Pondicherry
2.	Karaikal	161	1,70,640	Karaikal
3.	Mahe	9	36,823	Mahe
4.	Yanam	20	31,362	Yanam

30 Diary of National Events

(October 2000—September 2001)

OCTOBER

- 3 Russian President Vladimir Putin and Prime Minister Atal Bihari Vajpayee sign an agreement in New Delhi.
- 4 India and Russia identify key areas of cooperation in the IT sector and sign an agreement to establish an inter-ministerial commission on military-technical cooperation and sign three other defence deals.
- 7 Former Chief Minister Jayalalitha and her associate Sasikala are convicted and sentenced by a special court to three years and two years rigorous imprisonment in two Tansi land deal cases.
- Mumbai and Delhi to have MTNL mobile services from December 2000.
- 15 India's Leander Paes and Mahesh Bhupathi win men's doubles Japan Open tennis tournament.
- 16 Pakistan military ruler General Pervez Musharraf tells in a television programme that his country could use its nuclear bomb against India if its security is jeopardized.
- 18 Supreme Court gives nod for the construction of Sardar Sarovar dam on the Narmada river.
- Government slashes telephone registration charges to Rs 2,000 for urban phones and Rs 500 for rural phones.
- Centre notifies the entertainment sector, including films, as an industry under the Industrial Development Bank of India Act 1964.
- Government sets up a panel on cyber regulation.
- 19 India and Australia sign MoU for cooperation in information technology.
- India to get \$446 million loan from IDA for Third Technicians Education project and Gujarat State Highway project.
- 20 President K.R. Narayanan presents gallantry awards to 21 men and medals to 33 senior officers of the armed forces for distinguished services.
- 23 Insurance Regulatory and Development Authority issues the first batch of six licences to joint ventures with 26 per cent foreign equity.
- Government initiates prosecution against 24 vanishing companies from a list of 142 companies declared 'untraceable' by the SEBI.
- 24 BJP leader Manohar Parrikar is new Chief Minister of Goa.

- \$650 million undersea cable network to link India with Singapore.
- Sitaram Kesri, 84, passes away in New Delhi.
- 28 West Bengal Chief Minister Jyoti Basu formally submits his resignation to Governor.
- Rajnath Singh is sworn in the 29th Chief Minister of Uttar Pradesh.
- 30 CBI hands over report on match-fixing to Sports Minister.
- Former Bihar Director General of Police Dinesh Nandan Sahaya, Akali Dal leader Surjit Singh Barnala and Cabinet Secretary Prabhat Kumar are appointed Governors of Chhattisgarh, Uttaranchal and Jharkhand respectively.
- 31 Chhattisgarh, the 26th State of the Indian Union is born. Ajit Jogi is sworn in the first Chief Minister of the State.

NOVEMBER

- 2 Union Cabinet okays direct-to-home (DTH) service with 49 per cent foreign stake ceiling.
- 3 Board for Control of Cricket in India suspends five cricketers - Mohammed Azharuddin, Ajay Jadeja, Nayan Mongia, Ajay Sharma and Manoj Prabhakar - for 15 days.
- Suraj Bhan is appointed Governor of Himachal Pradesh and Vishnu Kant Shastri as Governor of Uttar Pradesh.
- Fifty armed forces personnel are honoured for acts of outstanding courage in New Delhi.
- 5 Payload operations of multipurpose satellite *Insat 2B* hit by a snag.
- 7 *Bharat Ratna* and architect of green revolution in India, C. Subramaniam, 90, passes away in Chennai.
- 9 Uttaranchal, the 27th State of India is born. BJP leader Nityanand Swami is sworn-in Chief Minister.
- 14 Jharkhand, the 28th State of the Indian Union, is born.
- India and China for the first time exchange maps on the middle sector of the disputed border in Beijing.
- 15 Kannada Filmstar Dr Rajkumar is released after 107 days in the custody of forest bandit Veerappan.
- Sonia Gandhi is elected the President of the Congress party.
- 16 Union Cabinet decides to bring down government holding in nationalised banks to 33 per cent from 51 per cent.
- 17 Government decides against allowing foreign direct investment in the print media.

- 18 The Cabinet Committee on Disinvestment decides to divest its equity in Maruti Udyog Limited. It also clears the sale of Indian Petrochemical Corporation's Vadodara plant to Indian Oil Corporation.
- Intel Corporation launches world's fastest microprocessor - Pentium iv.
- 19 Government declares ceasefire in Jammu and Kashmir during the month of Ramzan.
- 20 India to export over three lakh tonnes of wheat to Iraq.
- India figures at 11th position of 'the FDI (Foreign Direct Investment) Confidence Index'.
- 21 Prasar Bharati decides to start ten new FM channels on 26 January 2001.
- 25 India and Egypt sign a ten-year agreement to promote mutual investments.
- 26 The 120-year-old Darjeeling Himalayan Railway connecting New Jalpaiguri with Darjeeling is dedicated to the people as a World Heritage Site.
- 27 Bill seeking to enhance transparency in the functioning of companies and greater participation of shareholders in corporate governance, is passed in the Lok Sabha.
- 29 Nelson Mandela and Grameen Bank of Bangladesh are to jointly share the International Gandhi Peace Prize for 2000.
- India and Iraq agree on a 'swap' deal involving wheat for oil.
- 30 Parliament approves a bill imposing a penalty of Rs one lakh per person on carriers for bringing passengers into the country without valid passports.

DECEMBER

- 1 Priyanka Chopra is crowned Miss World.
- 5 Board for Control of Cricket in India imposes a life ban on Mohammad Azharuddin and Ajay Sharma. It also bans Ajay Jadeja, Manoj Prabhakar and Ali Irani for five years while Nayan Mongia and Delhi Groundsman Ram Adhar are exonerated from match-fixing.
- 6 Justice Ashok Abhaiendra Desai takes oath as the first Chief Justice of Uttaranchal High Court.
- Social worker Baba Amte is conferred with Dr Ambedkar International Award for Social Change.
- 9 Centre decides to make police stations, post offices and bank branches to act as Passport Clearance Centres from 1 January 2001.
- India frees 48 Pakistani fishermen as a gesture of ceasefire goodwill during Ramadan.

- Private broadcasters are to get licence for 40 FM channels.
- United Nations Sanctions Committee approves Indo-Iraq food-for-oil deal.
- 11 Justice Sathya Bratha Sinha is sworn in Chief Justice of Andhra Pradesh High Court.
- 12 Former Karnataka Chief Minister J.H. Patel, 71, passes away in Bangalore.
- 17 Hurriyat Conference welcomes the Ramzan ceasefire announced by Prime Minister and offers talks with the Centre.
- Centre directs the Delhi government to close down the industries which fall in F group in the master plan and are undisputed polluting industries.
- 20 Union Cabinet approves the introduction of the Code of Civil Procedure (Amendment) Bill, 2000.
- 23 Centre accepts the proposal of the West Bengal Government to rename Calcutta as 'Kolkata'.
- 24 Vishwanathan Anand is new World Chess Champion. He defeats Alexie Shirov of Spain.
- 26 Government imposes anti-dumping duty on drug manufacturing chemicals imported from China.
- 28 India and Russia sign defence deal for the production of 140 Sukhoi-30MKI multi-role jets by HAL.
- 29 Hashim Qureshi, hijacker of the Indian Airlines Srinagar-Jammu flight in 1971 surrenders in New Delhi.

JANUARY 2001

- 1 India and Pakistan exchange documents listing their nuclear installations and facilities under an agreement signed in 1988.
- 2 Government gives its nod to uniform sales tax on air turbine fuel (ATF) for turbo-prop aircraft, sponge iron at 4 per cent by amending the Central Sales Tax Act, 1956.
- Videsh Sanchar Nigam Limited slashes its dial-up Internet access rates by 50 per cent.
- 3 Reserve Bank of India revises norms for new private banks including conversion of Non-Banking Finance Companies into banking ventures.
- 4 India's indigenously built Light Combat Aircraft (LCA) undertakes its landmark first flight in Bangalore.
- 5 The pilotless target aircraft *Lakshya* is successfully inducted into the IAF.
- 9 India to invest \$10 million in Vietnam pharmaceutical manufacturing unit in Ho Chi Minh city.

- 17 *Agni II* is successfully test-fired for the second time from a mobile launcher in Orissa.
- 18 Task force on human resource development in IT headed by HRD Minister submits its report to Prime Minister.
- 21 India and Pakistan formally agree to continue running the Samjhauta Express for another three years.
- Indian shooter Abhinav Bindra sets world record in Luxemburg Open Championship in Luxemburg.
- 22 Guided Missile Destroyer *INS Mumbai* and Guided Missile corvettes *INS Kirch* are commissioned in the Indian Navy.
- 24 In the year of the Maha Kumbh, over two crore people take a dip in the *Sangam* at the confluence of the Ganga, the Yamuna and the Saraswati on the occasion of *Mauni Amavasya*.
- 25 Lata Mangeshkar and Ustad Bismillah Khan are chosen for *Bharat Ratna* award.
- Ministry of Information Technology accepts standard local language support, capable of representing the scripts of all the languages of the world for use in computers.
- 26 Independent India's worst earthquake hits parts of Gujarat killing at least 1,500 people.
- India celebrates its 52nd Republic Day.
- One hundred and thirty-eight militants lay down arms in Guwahati.
- 27 Government allows international rescue teams to join rescue work in Gujarat.
- Government announces full exemption from excise and customs duties to goods donated or purchased out of cash donations for relief and rehabilitation.
- 28 Death toll in Gujarat earthquake crosses 20,000.
- 29 Prime Minister Atal Bihari Vajpayee announces preliminary Rs 500 crore relief package for Gujarat.
- 30 Asian Development Bank announces \$350 million loan for rehabilitation and reconstruction work in the wake of the Gujarat earthquake.
- 31 India's unmanned aerial vehicle *Nishant* is successfully test-flown in Bangalore.

FEBRUARY

- 1 Centre announces additional levy of two per cent on all the income tax assesseees with an annual income of more than Rs 60,000 to mop up additional resources for the relief and rehabilitation of Gujarat earthquake victims.

- Government amends MP Local Area Development Scheme guidelines to enable MPs to donate whole or part of their annual Rs two crore fund for the reconstruction work in quake-ravaged Gujarat.
- 2 Prime Minister Atal Bihari Vajpayee and Pakistan's Chief Executive General Pervez Musharraf hold their first ever telephonic conversation.
- Thirty-eight miners are trapped in Dhanbad.
- US Exim Bank approves \$300 million facility to Industrial Development Bank of India for financing imports by Indian companies from USA.
- 6 Union Cabinet okays enactment of a new law that will ban tobacco advertising of any kind, smoking in public places or sale of tobacco products to youth under 18.
- 8 Census 2001 begins.
- Indian Tobacco Company withdraws from all kinds of sports sponsorship following Union Cabinet decision to ban tobacco advertising in the country.
- 9 India releases 160 Pakistani fishermen.
- 10 India signs a defence contract with Israel for the purchase of seven Barak ship-based anti-missile systems.
- India and Russia sign agreement on participation in Sakhalin-1 offshore oil project.
- 12 Videsh Sanchar Nigam Limited begins its South Africa Far East undersea fibre optic cable landing operation at Kochi landing point in Kerala.
- 13 Manipur Chief Minister, Wahengbam Nipamacha Singh, resigns.
- Centre decides to ban "F" channel.
- Cabinet Committee on Disinvestment formally decides to dilute Government's equity holding in Maruti Udyog Limited.
- India-Myanmar road is opened.
- 15 Samata Party leader Radhabinod Kojiam is sworn in Chief Minister of Manipur.
- India and Russia sign three agreements on the T-90S main battle tank.
- 16 Reserve Bank of India slashes bank rate and cash reserve ratio (CRR) by half a percentage point.
- 17 Government allows 100 per cent FDI in voice mail and audiotex services.
- 18 Finance Ministry imposes a provisional anti-dumping duty on all imports of aniline from the EU countries.
- 20 Veteran CPI leader and longest-serving parliamentarian, Indrajit Gupta, passes away in Kolkata.

- 21 Nearly 25 lakh devotees take a holy dip in the *Sangam* on the occasion of *Mahashivaratri*, marking the culmination of the first *Mahakumbh* of the millennium.
- Government decides to sell 51 per cent equity in Bharat Aluminium Company Limited to Sterlite Industries for Rs 551.5 crore.
- 23 The 2000-2001 Economic Survey is presented to Parliament. It calls for "full-steam ahead" reforms including total privatisation of the public sector, reduction in interest on small savings, pension and provident funds.
- 26 Union Railway Minister presents Railway Budget in Parliament with no hike in passenger fare, transportation rates for essential commodities, parcels, luggage and urea.
- 28 Union Finance Minister presents budget in Parliament. The main highlights are : growth rate targeted at 7 per cent, fiscal deficit at 4.7 per cent, inflation below 8 per cent, foreign TV channels to be taxed and 10 per cent job cuts in government in next five years.

MARCH

- 1 The Census of India, 2001, one of the biggest administrative exercises in the world, concludes.
- The Reserve Bank of India announces a reduction in the bank rate from 7.5 to 7 per cent.
- 2 India wins its case at the World Trade Organisation against imposition of anti-dumping duty by the European Union on imports of cotton type bed linen.
- The indigenously-built multi-target surface-to-air missile *Akash* is successfully test-fired from the Interim Test Range at Chandipur in Orissa.
- 7 The Government decides to induct the Intermediate Range Ballistic Missile *Agni-II*.
- 11 Off spinner Harbhajan Singh becomes the first Indian to claim a hat-trick in test cricket, on the opening day of the second test match against Australia in Kolkata.
- P. Gopichand becomes the record Indian to win the Men's single title after 21 years, at the All England Badminton Championship with a straight-game victory over Chinese, Chen Hong.
- 13 Ms Chokila Iyer assumes charge as India's first-ever woman Foreign Secretary.
- The BJP President Bangaru Laxman resigns after the charges of taking bribe in Defence deal after the exposition by a dot com news service named Tehelka.com.

- 14 Senior Vice-President of BJP, K. Jana Krishnamurthy is appointed acting President of the party.
- Cricketer V.V.S. Laxman becomes India's highest individual scorer in a test innings, making 237 runs in the second innings of the second cricket Test against Australia at Kolkata.
- 15 Defence Minister, George Farnandes resigns from the Government in the wake of the Tehelka.com "expose" of corruption in defence deals.
- Mamata Bannerjee, Railway Minister, with Ajit Panja, her deputy quit the post and also withdraw support from the NDA Government.
- 16 The President, K.R. Narayanan honours the former South African President, Nelson Mandela, with the Gandhi Peace Prize.
- 17 *INS Tillanchang*, the second indigenous warship in the Trinkat class fast attack craft series is commissioned at Vishakhapatnam.
- 18 External Affairs Minister, Jaswant Singh, is appointed the new Defence Minister in addition to his current charge.
- 19 Winner of Gandhi Peace Prize 2000, Nelson Mandela, donates the prize money, \$ 1,06,698, to the Gujarat earthquake victims.
- 21 Noted singer Lata Mangeshkar is honoured with country's highest civilian award - *Bharat Ratna*.
- 22 In a significant order to reduce the number of nearly two lakh undertrials crowding the jails, the Supreme Court holds that they should be released from prison if the trial proceedings have continued beyond five years.
- 23 Government raises minimum support price of wheat for the *Rabi* harvest per quintal from Rs 580 to Rs 610.
- 24 Justice K. Venkataswami, a retired judge of the Supreme Court, is to probe the Tehelka expose on graft in defence deals.
- 26 India's population is over 1.02 billion as on 1 March 2001.
- 27 Sitar maestro Pandit Ravi Shankar is conferred with the honorary Knight Commander of the Excellence Order of the British Empire for his contribution to music.
- 29 Dr Suman Sahai of the Gene Campaign, a Delhi-based NGO working on biological resources, is conferred with a Dutch environmental award and appointed Knight of the Order of the Golden Ark.
- 30 The Central Bureau of Investigation arrests Ketan Parekh, leading stock broker, in connection with the Rs 130 crore pay-order scam.
- 31 India's medium-range surface-to-surface missile, *Prithvi-II* is successfully test-fired from the interim test range at Chandipur-on-sea.
- Sachin Tendulkar becomes the first batsman to complete 10, 000 runs in one-day cricket.

APRIL

- 3 Former US president Bill Clinton arrives in New Delhi on a week-long visit.
- 6 The former Deputy Prime Minister, Devi Lal passes away in Delhi.
- Australia win the one-day cricket series against India by 3-2.
- 10 Prime Minister signs a historic declaration on strategic partnership in Tehran.
- The Supreme Court fixes 31 March 2003 as the deadline for Delhi Government to make the Yamuna pollution-free.
- 13 Pakistan withdraw from the 15th Commonwealth Table Tennis Championship in Delhi.
- 17 Sadiq Ali, noted Gandhian and former Governor of Tamil Nadu and Maharashtra, dies in New Delhi.
- Bangladesh Rifles personnel open fire on a Border Security Force camp in Dawki sector of East Hills District in Meghalaya.
- 18 Geosynchronous Satellite Launch Vehicle (GSLV) successfully places a satellite in a Geosynchronous Transfer Orbit from Sriharikota.
- Bangladesh Rifles in a forward village on the Assam-Meghalaya-Bangladesh border kill 16 BSF personnel in a firing.
- 19 The Security and Exchange Board of India (SEBI) debars three corporates BPL Limited, Videocon International and Sterlite Industries, from accessing the capital market for two to four years. SEBI also permanently debars Harshad Mehta from dealing in securities.
- Novelist and social activist Arundhati Roy is conferred with the award of "Knight of the Order of Arts and Letters" by the French Government.
- 24 Sachin Tendulkar is conferred with the *Maharashtra Bhushan* award for the year 2000-01 by the State Government.
- World Chess Champion Vishwanathan Anand receives the 'Jameo de oro' award, highest civilian honour of the Government of Lanzarote in Spain.
- 26 Parliament constitutes a 30-member Joint Committee of both Houses to probe the stock market scam.
- 29 India becomes the world's largest economy after the US, China and Japan in Purchasing Power Parity measured in American prices.

MAY

- 1 Bureau of Indian Standards has developed interactive windows-based software for facilitating decisions on fire protection in buildings.

- 2 The Union Cabinet grants special category status to Uttaranchal.
- 3 Centre bans radical outfit *Deendar Anjuman*.
- 4 A special CBI court drops proceedings against three Union Ministers, L.K. Advani, Murli Manohar Joshi, Uma Bharti and 18 others.
- 5 India begins its largest military exercise *Poorna Vijay* in Rajasthan.
- 7 India's Leander Paes and Mahesh Bhupathi win their second straight doubles title by winning Claycourt Tennis championship.
- 8 The President appoints BJP member Kedar Nath Sahani as Governor of Sikkim, Amolak Rattan Kohli as Governor of Mizoram and Nagendra Nath Jha as Lt. Governor of the Andaman and Nicobar Islands.
- The 67 day-old BALCO worker's strike is called off.
- 9 The Union Cabinet allows Foreign Direct Investment in Defence and Telecom sectors.
- 10 About 65 per cent voters in Tamil Nadu, West Bengal, Kerala, Assam and in UT of Pondicherry exercise their franchise for the Assembly polls.
- 11 India's first electric car named Reva unveiled on Technology Day in New Delhi.
- 13 Renowned novelist and storywriter of international repute, R.K. Narayan, passes away in Chennai.
- The results of Assembly elections in the five States are declared.
- 14 In a move to discipline the capital market, SEBI bans the 'Badla' trade.
- AIADMK General Secretary J. Jayalalitha sworn in Chief Minister of Tamil Nadu.
- 17 Congress leader A.K. Antony is sworn in Chief Minister of Kerala.
- 18 Buddhadeb Bhattacharjee is sworn in Chief Minister of West Bengal.
- Tarun Gogoi is sworn in Chief Minister of Assam.
- 19 Kutiyattam, the 200 year-old theatre tradition of Kerala, is declared one of the "Masterpieces of the Oral and Intangible Heritage of Humanity" by UNESCO.
- 21 The Samata Party-led People's Front Ministry in Manipur headed by R.B. Koijam is defeated in a vote of confidence in the Assembly.
- 23 India invites Pakistan military ruler General Pervez Musharraf for talks.

JUNE

- 2 President's rule is imposed in Manipur.

- 3 World's highest observatory opens at mount Saraswat Hanlay in Ladakh.
- 5 The US embassy announces a new visa processing procedure under which eligible applicants will receive their passports through courier at any of their addresses in north India.
- 7 P. Gopichand becomes the second Indian to reach the quarter-finals of the World Badminton Championship.
- 9 Tennis players Mahesh Bhupathi and Leander Paes win men's doubles final of the French Open.
- 10 India wins the Junior Asia Cup Hockey title defeating Uzbekistan by 7-0.
- 12 Defence scientists of India and Russia successfully test fire *PJ-10*, a medium range surface-to-surface missile from the interim test range at Chandipur-on-sea.
- 13 J.M. Lyngdoh takes over as the Chief Election Commissioner.
- 14 Centre extends cease-fire in North-East for one year.
- 21 The Archaeological Survey of India signs a MoU with Indian Hotels Company for preservation and safe-keeping of the Taj Mahal.
- 26 G. Ramanujam, former Governor of Goa and Orissa and a veteran trade union leader, passes away in Chennai.
- 28 In the largest-ever merger in India's cellular sector, Birla-Tata-AT&T (Batata) and BPL Communications announce joint venture to create a new company.
- 30 Chennai police arrests former Chief Minister of Tamil Nadu M. Karunanidhi on the charges of corruption. The scuffle during arrest also leads to the detentions of Union Ministers T.R. Balu and Murasoli Maran, while Karunanidhi's son M.K. Stalin surrenders in the same case.

JULY

- 1 Government introduces low-sulphur diesel in the entire National Capital Region.
- Tamil Nadu Governor Fathima Beevi quits the post following the Centre's decision to recall her.
- 2 Unit Trust of India, the country's largest mutual fund suspends sale and purchase of its popular US-64 scheme for six months.
- Tamil Nadu Government releases two arrested Union Ministers Murasoli Maran and T.R. Balu.
- 3 Transport Corporations of India and Bangladesh sign an agreement to run Agartala-Dhaka bus service.
- 4 Tamil Nadu Chief Minister orders release of arrested DMK president M. Karunanidhi.

- Government removes all restrictions on raw cotton export.
- 10 India ranks 115th among 162 countries on the basis of Human Development Index as calculated by the UN and placed among States in the medium Human Development category.
- 14 Pakistan's President Pervez Musharraf arrives in New Delhi, and holds meetings with Home and Defence Ministers.
- 15 Visiting Pakistan President and Prime Minister meet at Agra and describe their talks as 'fruitful'.
- The UTI draws a Rs 500 crore bailout package where all US-64 investors will be allowed to redeem up to a maximum of 3,000 units from 1 August at the face value of Rs 10.
- 21 Dada Saheb Phalke awardee thespian Sivaji Ganeshan passes away in Chennai.
- 24 The Supreme Court directs Haryana Government to take back 500 acres of land gifted to the former Prime Minister Chandra Shekhar, for his Bhondsi Ashram.
- 25 Bandit turned politician and Lok Sabha M.P. of Samajvadi Party, Phoolan Devi gunned down at her official residence in New Delhi.
- 27 Pakistan extends a formal invitation to Prime Minister to visit Islamabad.
- 28 Noted Assamese writer Indira Goswami selected for Jnanpith award.
- 29 Prime Minister announces Rs 435 crore as aid for flood hit Orissa.
- 30 Social activist Rajendra Singh named winner of the year's Ramon Magsaysay award for his water harvesting efforts in Rajasthan.
- 31 Prime Minister Atal Bihari Vajpayee offers to resign from the post but the alliance parties succeed in persuading him to abandon his proposal.

AUGUST

- 6 P.C. Sen takes over as the new Secretary General of the National Human Rights Commission.
- 8 Noted Hindi writer Nemichand Jain dies of a heart attack in Indore.
- United States allows duty - free access to 42 Indian products in jewellery, leather and carpet whose current trade value is estimated to be around \$ 540 million.
- Major General Lalit Mohan Tewari of the Madras Regiment named commander of the United Nations Interim Force in Lebanon by Secretary General Kofi Annan.
- 10 Stock broker Ketan Parekh is arrested in Mumbai for alleged fraud and misappropriation of public funds.
- Water harvesting is made mandatory in the National Capital Territory

- of Delhi in all new buildings on plots of 100 sq metres and above for storing of water runoff including rain water.
- Uttar Pradesh Chief Minister Rajnath Singh dismisses Energy Minister and Loktantrik Congress Party chief Naresh Agrawal from his cabinet.
 - 13 Aamir Khan's film *Lagaan* picks up the Prix de Public award at the Locarno Film Festival.
 - 14 Dogra Regiment Captain, Pankaj Dhyani and Corporal, Akhilesh Mishra awarded *Kirti Chakra*.
 - President K.R. Narayanan, in his address to the nation on the eve of the Independence Day calls upon the people to maintain a balance between "freedom and social justice" and strive hard to promote democracy and unity in the nation.
 - 15 In his Independence Day broadcast, Prime Minister announces various schemes including Rs 10,000 crore *Sampoorna Gramin Rozgar Yojana*. He declares that dialogue with Pakistan will continue and that free and fair elections in Jammu & Kashmir will be ensured.
 - 16 Union Cabinet decides to abolish the Board for Industrial and Financial Reconstruction and replace it by a new body - National Company Law Board.
 - "Flying Sikh" Milkha Singh turns down *Arjuna* Award for Lifetime Achievement.
 - 17 Union Cabinet approves a bill seeking to hike salaries of MPs by nearly three times and raise other perks and allowances.
 - The Supreme Court rules that non-MLAs appointed ministers for six months under Articles 164 (4) of the Constitution could not be reappointed during that Assembly's term without being elected to it.
 - 19 Renowned *Mohan Veena* player and Grammy Award winner Pandit Vishwa Mohan Bhatt is chosen for Rajiv Gandhi Rashtriya Ekta Award.
 - 20 The Supreme Court observes that it is the primary responsibility of the Central and the State Governments to ensure that starving people are supplied with food-grains.
 - 23 Unruly members rushing into the well of the House will now face automatic suspension for five working days, announces Lok Sabha speaker G.M.C. Balyogi.
 - 25 Fifteen-year-old Pendyala Harikrishna becomes India's youngest Grandmaster in chess.
 - Eminent *sarod* player Ustad Amjad Ali Khan is named recipient of the prestigious *Tansen Samman* by Madhya Pradesh Government.
 - 27 The Cabinet approves the Communication Convergence Bill 2001.
 - Trinmool Congress and PMK are back in NDA, the ruling alliance.

- 28 The United States restores the customs duty waiver to 42 Indian products with effect from 22 August.
- 29 Railway Minister enforces a safety surcharge ranging from Rupee one to Rs 100 on passengers of all classes.
- 30 G.K. Moopanar, founder and president of Tamil Maanila Congress passes away in Chennai.
- 31 The Hindujas announce a formal withdrawal from the process of disinvesting the State-owned airline, Air India.
- Pakistani newspapers and printed books soon to be imported along with a host of items either at reduced or no duties, the Government announces in the Lok Sabha.

SEPTEMBER

- 2 The Centre makes mandatory for States to identify people living below-poverty line and ensure that they get foodgrains from fair price shops.
- The indigenously developed anti-tank guided missile, *Nag*, successfully test-fired from the Interim-Test-Range at Chandipur-on-sea.
- 3 The Supreme Court directs 13 States and two UTs to identify families below- poverty line to ensure that they get their share of food through the public distribution system.
- 5 The Centre and the States agree to set up "grain banks" for storage at the *panchayat* level.
- 7 The Government increases the minimum support price of paddy by Rs 20 per quintal and that of pulses by Rs 140 per quintal for the forthcoming *Kharif* harvest.
- 11 Samajwadi Party MLAs resign in an attempt to force the BJP-led Government to dissolve the Vidhan Sabha for elections in Uttar Pradesh.
- 12 As a result of terrorist attacks in America, BSE Sensex touches a 32-month low of 2,954 and Rupee touches a new low of 47.52 against the dollar.
- 13 Afro-Asian games scheduled to begin from 3 November postponed due to security reasons following terrorist attacks on America.
- 14 India's most sophisticated integrated medium-range, surface-to-air missile, *Akash*, successfully test-fired from the Interim-Test- Range at Chandipur-on-sea.
- 15 The Cabinet Committee decides to set up the country's first-ever integrated defence staff. It will be a tri-service wing and will introduce joint planning, joint formulations and a joint training concept.
- The CBI decides to set up a core group to assess and review all information available on the activities of various terrorist groups.

- 18 All Afghan nationals in India now have to register themselves with the authorities.
- 21 India's first indigenous medium range ship-to-ship missile *Dhanush* is successfully test-fired from off the coast of Orissa.
- 26 Government cancels the International Film Festival of India to be held in Bangalore following Karnataka's inability to co-host it and increasing uncertainty over international participation.
- Film maker Vijay Anand takes over as new chief of the Censor Board.
- 27 Government bans Student's Islamic Movement of India branding it as a fundamentalist organisation having links with Pakistan's ISI and terrorist groups in Jammu & Kashmir.
- Former Andhra Pradesh Chief Minister Kotla Vijayabhaskar Reddy dies in Hyderabad.
- 29 Delhi Government decides to roll back the retirement age of employees of its public sector enterprises from 60 to 58.
- Former Chief of International Cricket Council Jagmohan Dalmiya is elected President of the Board of Control for Cricket in India.
- Videsh Sanchar Nigam Limited slashes internet tariff from 2 October.
- 30 Senior Congress leader Madhavrao Scindia dies in a plane crash in Mainpuri district of Uttar Pradesh.

31 General Information

PRESIDENTS OF INDIA

Name	Tenure
Dr Rajendra Prasad (1884-1963)	26 January 1950-13 May 1962
Dr Sarvepalli Radhakrishnan (1888-1975)	13 May 1962-13 May 1967
Dr Zakir Husain (1897-1969)	13 May 1967-3 May 1969
Varahagiri Venkatagiri (1884-1980)	3 May 1969-20 July 1969 (Acting)
Justice Mohammad Hidayatullah (1905-1992)	20 July 1969-24 August 1969 (Acting)
Varahagiri Venkatagiri (1884-1980)	24 August 1969-24 August 1974
Fakhruddin Ali Ahmed (1905-1977)	24 August 1974-11 February 1977
B.D. Jatti (b-1913)	11 February 1977-25 July 1977 (Acting)
Neelam Sanjiva Reddy (1913-1996)	25 July 1977-25 July 1982
Giani Zail Singh (1916-1994)	25 July 1982-25 July 1987
R. Venkataraman (b-1910)	25 July 1987-25 July 1992
Dr Shanker Dayal Sharma (1918-1999)	25 July 1992-25 July 1997
K.R. Narayanan (b-1920)	25 July 1997-till date

VICE-PRESIDENTS OF INDIA

Name	Tenure
Dr Sarvepalli Radhakrishnan (1888-1975)	1952-1962
Dr Zakir Husain (1897-1969)	1962-1967
Varahagiri Venkatagiri (1884-1980)	1967-1969
Gopal Swarup Pathak (1896-1982)	1969-1974
B.D. Jatti (b-1913)	1974-1979
Justice Mohammad Hidayatullah (1905-1992)	1979-1984
R. Venkataraman (b-1910)	1984-1987
Dr Shanker Dayal Sharma (1918-1999)	1987-1992
K.R. Narayanan (b-1920)	1992-1997
Krishan Kant (b-1927)	1997-till date

PRIME MINISTERS OF INDIA

Name	Tenure
Jawaharlal Nehru (1889-1964)	15 August 1947-27 May 1964
Gulzari Lal Nanda (1898-1997)	27 May 1964-9 June 1964 (Acting)
Lal Bahadur Shastri (1904-1966)	9 June 1964-11 January 1966
Gulzari Lal Nanda (1898-1997)	11 January 1966-24 January 1966 (Acting)
Indira Gandhi (1917-1984)	24 January-24 March 1977
Morarji Desai (1896-1995)	24 March 1977-28 July 1979
Charan Singh (1902-1987)	28 July 1979-14 January 1980
Indira Gandhi (1917-1984)	14 January 1980-31 October 1984
Rajiv Gandhi (1944-1991)	31 October 1984-1 December 1989
Vishwanath Pratap Singh (b-1931)	2 December 1989-10 November 1990
Chandra Shekhar (b-1927)	10 November 1990-21 June 1991
P.V. Narasimha Rao (b-1921)	21 June 1991-16 May 1996
Atal Bihari Vajpayee (b-1926)	16 May 1996-01 June 1996
H.D. Deve Gowda (b-1933)	01 June 1996-21 April 1997
I.K. Gujral (b-1933)	21 April 1997-18 March 1998
Atal Bihari Vajpayee (b-1926)	19 March 1998 -13 October 1999
Atal Bihari Vajpayee (b-1926)	13 October 1999 - till date

CHIEF JUSTICES OF INDIA

Name	Tenure
Harilal J. Kania	26 January 1950-6 November 1951
M. Patanjali Sastri	7 November 1951-3 January 1954
Mehar Chand Mahajan	4 January 1954-22 December 1954
B.K. Mukherjea	23 December 1954-31 January 1956
S.R. Das	1 February 1956-30 September 1959
Bhuvaneshwar Prasad Sinha	1 October 1959-31 January 1964
P.B. Gajendragadkar	1 February 1964-15 March 1966
A.K. Sarkar	16 March 1966-29 June 1966
K. Subba Rao	30 June 1966-11 April 1967
K.N. Wanchoo	12 April 1967-24 February 1968
M. Hidayatullah	25 February 1968-16 December 1970
J.C. Shah	17 December 1970-21 January 1971
S.M. Sikri	22 January 1971-25 April 1973
A.N. Ray	26 April 1973-27 January 1977
M.H. Beg	28 January 1977-21 February 1978
Y.V. Chandrachud	22 February 1978-11 July 1985
Prafullachandra Natvarlal Bhagwati	12 July 1985-20 December 1986

R.S. Pathak	21 December 1986-18 June 1989
E.S. Venkataramiah	19 June 1989-17 December 1989
S. Mukharjee	18 December 1989-25 September 1990
Ranganath Mishra	26 September 1990-24 November 1991
K.N. Singh	25 November 1991-12 December 1991
M.H. Kania	13 December 1991-17 November 1992
L.M. Sharma	18 November 1992-11 February 1993
M.N. Venkatachaliah	12 February 1993-24 October 1994
A.M. Ahmadi	25 October 1994-24 March 1997
J.S. Verma	25 March 1997-17 January 1998
M.M. Punchhi	18 January 1998-9 October 1998
A.S. Anand	10 October 1998 - 31 October 2001
S.P. Bharucha	1 November 2001 - till date

CHIEF ELECTION COMMISSIONERS OF INDIA

Name	Tenure
Sukumar Sen	21 March 1950-19 December 1958
K.V.K. Sundaram	20 December 1958-30 September 1967
S.P. Sen Verma	1 October 1967-30 September 1972
Dr Nagendra Singh	1 October 1972-6 February 1973
T. Swaminathan	7 February 1973-17 June 1977
S.L. Shakdhar	18 June 1977-17 June 1982
R.K. Trivedi	18 June 1982-31 December 1985
R.V.S. Peri Sastri	1 January 1986-25 November 1990
Smt V.S. Rama Devi	26 November 1990 to 11 December 1990
T.N. Seshan	12 December 1990-11 December 1996
M.S. Gill	12 December 1996 - 13 June 2001
J.M. Lyngdoh	13 June 2001 - till date

CIVILIAN AWARDS

<i>Bharat Ratna</i>	:	The award is given for exceptional service towards the advancement of Art, Literature and Science, and in recognition of public service of the highest order.
<i>Padma Vibhushan</i>	:	The award is given for exceptional and distinguished service in any field including service rendered by the Government servants.
<i>Padma Bhushan</i>	:	The award is given for distinguished service of high order in any field including service rendered by the Government servants.
<i>Padma Shri</i>	:	The award is given for distinguished service in any field including service rendered by the Government servants.

In pursuance of the Supreme Court's Judgement, the Government had constituted a High Level Review Committee chaired by the Vice-President of India, to go into the guidelines for the *Padma* Awards and certain other aspects. The Review Committee submitted its report in November 1996 and the same has been accepted by the Government. The institution of these awards has been revived since 1997. During the year 2001 *Bharat Ratna* Award has been

conferred on Sushri Lata Dinanath Mangeshkar and Ustad Bismillah Khan. 109 *Padma Awards* (11 *Padma Vibhushan*, 32 *Padma Bhushan* and 66 *Padma Shri*) were announced on 26 January 2001. The awards were conferred by the President in the Investiture Ceremony held on 21 and 22 March 2001.

RECIPIENTS OF BHARAT RATNA

Name	Awarded in
Chakravarti Rajagopalachari (1878-1972).....	1954
Dr Sarvepalli Radhakrishnan (1888-1975)	1954
Dr Chandrasekhar Venkat Raman (1888-1970).....	1954
Dr Bhagwan Das (1869-1958)	1955
Dr Mokshagundam Visvesvaraya (1861-1962)	1955
Jawaharlal Nehru (1889-1964)	1955
Govind Ballabh Pant (1887-1961).....	1957
Dr Dhondo Keshave Karve (1858-1962).....	1958
Dr Bidhan Chandra Roy (1882-1962).....	1961
Purushottam Das Tandon (1882-1962)	1961
Dr Rajendra Prasad (1884-1963)	1962
Dr Zakir Husain (1897-1969)	1963
Dr Pandurang Vaman Kane (1880-1972).....	1963
Lal Bahadur Shastri (Posthumous) (1904-1966)	1966
Indira Gandhi (1917-1984)	1971
Varahagiri Venkatagiri (1884-1980).....	1975
Kumaraswami Kamraj (Posthumous) (1903-1975)	1976
Mary Teresa Bojaxhiu (Mother Teresa) (1910-1997).....	1980
Acharya Vinobha Bhave (Posthumous) (1895-1982)	1983
Khan Abdul Ghaffar Khan (1890-1988).....	1987
Marudu Gopalan Ramachandran (Posthumous) (1917-1987)	1988
Dr Bhim Rao Ramji Ambedkar (Posthumous) (1891-1956).....	1990
Dr Nelson Rolihlahla Mandela (b-1918)	1990
Rajiv Gandhi (Posthumous) (1944-1991)	1991
Sardar Vallabhbhai Patel (Posthumous) (1875-1950)	1991
Morarji Ranchhodji Desai (1896-1995)	1991
Maulana Abul Kalam Azad (Posthumous) (1888-1958)	1992
Jehangir Ratanji Dadabhai Tata (1904-1993)	1992
Satyajit Ray (1922-1992).....	1992
Aruna Asaf Ali (Posthumous) (1909-1996)	1997
Gulzari Lal Nanda (Posthumous) (1898-1997)	1997
Dr Avul Pakir Jainulabdeen Abdul Kalam (b-1931)	1997
Madurai Shanmukhavadiyu Subbalakshmi (b-1916)	1998
Chidambaram Subramaniam (1910-2000)	1998

Loknayak Jayaprakash Narayan (Posthumous) (1902-1979).....	1999
Professor Amartya Sen (b-1933).....	1999
Lokpriya Gopinath Bordoloi (Posthumous) (1890-1950)	1999
Pandit Ravi Shankar (b-1920).....	1999
Sushri Lata Dinanath Mangeshkar (b-1929).....	2001
Ustad Bismillah Khan (b-1916).....	2001

CIVILIAN AWARDS CONFERRED IN THE YEAR 2001

Padma Vibhushan Recipients	:	Ustad Amjad Ali Khan
		Benjamin Arthur Gilman
		Dr Calyampudi Radhakrishna Rao
		Dr Chakravarthi Vijayaraghava Narasimhan
		Hosei Noroto
		Hrishikesh Mukherjee
		John Kenneth Galbraith
		Kotta Satchidananda Murty
		Prof Man Mohan Sharma
		Pandit Shiv Kumar Sharma
		Zubin Mehta

Padma Bhushan Recipients	:	Maulana Abdul Karim Parekh
		Amitabh Bachchan
		Dr (Kum) Amrita Patel
		Aroon Purie
		Dr Arun Netravali
		Ashok Haribhai Desai
		Badrinarayan Ramulal Barwale
		Baldev Raj Chopra
		Dr (Smt) Paluvai Bhanumathi Ramakrishna
		Dr Bhupathiraju Vissam Raju
		Bhupen Hazarika
		Dr Boyi Bhimanna
		Dr Chitranjan Singh Ranawat
		Dev Anand
		Dr Karimpumannil Mathai George
		Dr Lakshminarayana Subramaniam
		Lalgudi Gopalaiyer Jayaraman

Mohan Singh Oberoi
 Dr Naresh Kumar Trehan
 Dr Palle Rama Rao
 Pran Sikand
 Raghunath Mohapatra
 Rahul Bajaj
 Dr Raj Reddy
 Dr Rajendra Kumar Pachauri
 Sundaram Ramakrishnan
 Prof Shiv Kumar Kumar
 Swadesh Chatterjee
 Trimbak alias Balasaheb Shivram Bharade
 Ms Uma Sharma
 Viswanathan Anand
 Dr (Ms) Yamini Krishnamurti

Padma Shri Recipients : 66

SANGEET NATAK AKADEMI AWARDS 1999-2000

MUSIC

Malabika Kanan	: Hindustani Music - Vocal
Ajoy Chakraborty	: Hindustani Music - Vocal
Rita Ganguli	: Hindustani Music - Vocal
Rajeev Taranath	: Hindustani Music Instrumental (Sarod)
Shankar Ghosh	: Hindustani Music Instrumental (Tabla)
Appa Jalgaonkar	: Hindustani Music Instrumental (Harmonium)
S.R. Janakiraman	: Carnatic Music - Vocal
T.N. Seshagopalan	: Carnatic Music - Vocal
Neyattinkara Vasudevan	: Carnatic Music - Vocal
R.R. Keshava Murthy	: Carnatic Music Instrumental (Violin)
T.S. Sankaran	: Carnatic Music Instrumental (Flute)
V. Kamalakar Rao	: Carnatic Music Instrumental (Mridangam)

DANCE

K. Kalyanasundaram Pillai	: Bharatanatyam
Leela Samson	: Bharatanatyam
H.R. Keshavam Murthy	: Bharatanatyam
Shovana Narayan	: Kathak
Nelliyodu Vasudevan Nambodiri	: Kathakali
Sorokhaibam Naran Singh	: Manipuri

Swapnasundari Rao	: <i>Kuchipudi</i>
Minati Mishra	: <i>Odissi</i>
Madhavi Mudgal	: <i>Odissi</i>
Bharati Shivaji	: <i>Mohiniattam</i>
Parmananda Borbayan	: <i>Sattriya</i>
Mallika Sarabhai	: <i>Creative</i>

THEATRE

Ketaki Dutta	: <i>Acting</i>
Sabitri Chatterjee	: <i>Acting</i>
Seema Biswas	: <i>Acting</i>
Balwant Thakur	: <i>Direction</i>
Nadira Zaheer Babbar	: <i>Direction</i>
Prasanna	: <i>Direction</i>
N. Muthuswamy	: <i>Playwriting</i>

OTHER ASPECTS OF THEATRE

R.K. Dhingra	: <i>Lighting</i>
Robin Das	: <i>Scenic Design</i>
Kamal Tewari	: <i>Theatre Music</i>
Kajal Ghosh	: <i>Theatre Music</i>
Shakti Sen	: <i>Make up</i>

TRADITIONAL/FOLK/TRIBAL MUSIC/DANCE/THEATRE & PUPPETRY

Gajanan Verma	: <i>Folk Music - Rajasthan</i>
Appukutty Poduval	: <i>Maddalam - Kerala</i>
H. Kaibuaia	: <i>Folk Music - Mizoram</i>
Kalu-Balu Kaulapurkar (Joint Award)	: <i>Tamasha - Maharashtra</i>
Agat A. Sangma	: <i>Folk Music - Meghalaya</i>
Sharda Sinha	: <i>Folk Music - Bihar</i>
T.R. Kamala Murthy	: <i>Harikatha - Tamil Nadu</i>
Krushna Chandra Sahu	: <i>Prahlad Natak - Orissa</i>
Mamman Khan	: <i>Folk Music - Haryana</i>
G.S. Chani	: <i>Community Theatre - Punjab</i>
B.H. Puttasamachar	: <i>Puppetry-Karnataka</i>

OVERALL CONTRIBUTION TO PERFORMING ARTS

B.V.K. Sastry
Nemichandra Jain
Shanta Serbjeet Singh

SAHITYA AKADEMI AWARDS 2000

Language	Author	Title and Genre
Assamese	Apurba Sarma	<i>Baghe Tapur Rati Aru Anyanya Kahini</i> (Short Stories)
Bengali	Joy Goswami	<i>Pagli Tomar Sange</i> (Poetry)
Dogri	(Late) Bandhu Sharma	<i>Meel Patthar</i> (Short Stories)
English	Kiran Nagarkar	<i>Cuckold</i> (Novel)
Gujarati	Vinesh Antani	<i>Dhundhabhari Khin</i> (Novel)
Hindi	Mangalesh Dabral	<i>Hum Jo Dekhte Hain</i> (Poetry)
Kannada	(Late) Shantinath Desai	<i>Om Namo</i> (Novel)
Kashmiri	Hari Krishna Kaul	<i>Yath Raaz Daanay</i> (Short Stories)
Konkani	Pandurang Bhangui	<i>Champhel'Li Sanj</i> (Poetry)
Maithili	Ramanand Renu	<i>Katek Raas Baat</i> (Poetry)
Malayalam	R. Ramachandran	<i>R. Ramachandrante Kavithakal</i> (Poetry)
Manipuri	L. Premchand	<i>Eemagi Phanek Machet</i> (Short Stories)
Marathi	N.D. Mahanor	<i>Panzad</i> (Poetry)
Nepali	Ramlal Adhikari	<i>Nisansmaran</i> (Essays)
Oriya	Pratibha Ray	<i>Ullanghan</i> (Short Stories)
Punjabi	Waryam Singh Sandhu	<i>Chauthi Koot</i> (Short Stories)
Rajasthani	Jyotipunj	<i>Kankoo Kabandh</i> (Play)
Sanskrit	S. Srinivasa Sharma	<i>Jagadguru Sri Chandrasekharendra Vijayan</i> (Poetry)
Sindhi	Param Abichandani	<i>Taka Tora</i> (Criticism)
Tamil	T.G. Sivasankaran	<i>Vimarsanangal Mathippuraikal Pettikal</i> (Criticism)
Telugu	N. Gopi	<i>Kalanni Nidra Ponivvanu</i> (Poetry)
Urdu	Amba Bahraichi	<i>Sookhi Tahni Par Hariyali</i> (Poetry)

NOBEL LAUREATES

AMARTYA SEN (b-1933) : Prof. Amartya Sen is the recipient of the Nobel Prize for Economics for the year 1998, becoming the first Asian to have been honoured with the award. The Santiniketan-born economist who is a pioneer in Welfare Economics has to his credit several books and papers on aspects of welfare and development. An economist with a difference, Prof. Sen is a humanist. He has distinguished himself with his outstanding writings on famine, poverty, democracy, gender and social issues. The 'impossibility theorem' suggested earlier by Kenneth Arrow states that it was not possible to aggregate individual choices into a satisfactory choice for society as a whole. Prof. Sen showed mathematically that societies could find ways to alleviate such a poor outcome.

SUBRAMANIAN CHANDRASHEKAR (1910-1995) : The Nobel Prize for Physics in 1983 was awarded to Dr S. Chandrashekar, an Indian-born astrophysicist. Educated in Presidency College, Chennai, Dr Chandrashekar happened to be the nephew of his Nobel forbear, Sir C.V. Raman. He later migrated to the United States where he authored several books on Astrophysics and Stellar Dynamics. He developed a theory on white dwarf stars which posts a limit of mass of dwarf stars known also as Chandrashekar Limit. His theory explains the final stages of stellar evolution.

MOTHER TERESA (1910-1997) : The Nobel Peace Prize was awarded to Mother Teresa in 1979. Albanian parentage, Agnes Gonxha Bojaxhiu was born at Skopje, now in Yugoslavia. She joined the Irish order of the Sisters of Loretto at Dublin in 1928 and came to Kolkata in 1929 as a missionary, only to find the misery of the abandoned and the destitute. Concern for the poor and the sick prompted her to found a new congregation, Missionaries of Charity. Having become an Indian citizen, Mother Teresa served the cause of dying destitutes, lepers and drug addicts, through *Nirmal Hriday* (meaning Pure Heart), the main centre of her activity. Her selfless service and unique devotion, not only to helpless fellow-Indians but also to the cause of world peace, earned her and India the first Nobel Peace Prize.

HARGOBIND KHORANA (b. 1922) : Hargobind Khorana was awarded the Nobel Prize for Medicine in 1968. Of Indian origin, Dr Khorana was born in Raipur, Punjab (now in Pakistan). He took his doctoral degree in Chemistry from Liverpool University and joined the University of Wisconsin as a Faculty Member in 1960. His major breakthrough in the field of Medicine—interpreting the genetic code and analysing its function in protein synthesis—fetched him the Nobel Prize.

CHANDRASHEKAR VENKATARAMAN (1888-1970) : India's first Nobel Prize for Physics was claimed in 1930 by the renowned physicist Sir C.V. Raman. Born at Thiruvanaikkaval near Tiruchirappalli in Tamil Nadu, Raman studied at Presidency College, Chennai. Later, he served as Professor of Physics at Calcutta University. Recipient of many honours and awards, including the title of 'Sir', Sir C.V. Raman received the Nobel Prize for an important optics research, in which he discovered that diffused light contained rays of other wavelengths—what is now popularly known as Raman Effect. His theory discovered in 1928 explains the change in the frequency of light passing through a transparent medium.

RABINDRANATH TAGORE (1861-1941) : Rabindranath Tagore was the first Indian ever to receive a Nobel Prize. Popularly known as *Gurudev*, India's Poet Laureate Tagore was born on 7 May 1861 in Kolkata. He was awarded the Nobel Prize for Literature in recognition of his work *Geetanjali*, a collection of poems, in 1913. Tagore wrote many love lyrics. *Geetanjali* and *Sadhana* are among his important works. The poet, dramatist and novelist is also the author of India's National Anthem. In 1901 he founded the famous Santiniketan which later came to be known as Vishwabharati University.

COMMANDERS-IN-CHIEF

Name	Tenure
General Sir Roy Bucher.....	1 January 1948-14 January 1949
General (later Field Marshal)	
K.M. Cariappa	15 January 1949-14 January 1953
General Maharaj Rajendra Sinhji.....	15 January 1953-31 March 1955

CHIEFS OF ARMY STAFF

Name	Tenure
General Maharaj Rajendra Sinhji	1 April 1955-14 May 1955
General S.M. Srinagesh	15 May 1955-7 May 1957
General K.S. Thimayya	8 May 1957-7 May 1961
General R.N. Thapar	8 May 1961-19 November 1962
General J.N. Choudhuri	20 November 1962-7 June 1966
General P.P. Kumaramangalam	8 June 1966-7 June 1969
General S.H.F.J. Manekshaw	8 June 1969-31 December 1972
Field Marshal S.H.F.J. Manekshaw	1 January 1973-14 January 1973

General G.G. Bewoor	15 January 1973-31 May 1975
General T.N. Raina	1 June 1975-31 May 1978
General O.P. Malhotra	1 June 1978-31 May 1981
General K.V. Krishna Rao	1 June 1981-31 July 1983
General A.S. Vaidya	1 August 1983-31 January 1986
General K. Sunderji	1 February 1986-30 April 1988
General V.N. Sharma	1 May 1988-30 June 1990
General S.F. Rodrigues	1 July 1990-30 June 1993
General B.C. Joshi	1 July 1993-18 November 1994
General S. Roychowdhury	22 November 1994-30 September 1997
General V.P. Malik	1 October 1997-30 September 2000
General S. Padmanabhan	1 October 2000 - till date

CHIEFS OF NAVAL STAFF

Name	Tenure
Rear Admiral J.T.S. Hall	15 August 1947-14 August 1948
Admiral Sir Edward Parry	15 August 1948-13 October 1951
Admiral Sir Mark Pizey	14 October 1951-21 July 1955
Vice Admiral Sir Stephen Carlill	22 July 1955-21 April 1958
Vice Admiral R.D. Katari	22 April 1958-4 June 1962
Vice Admiral B.S. Soman	5 June 1962-3 March 1966
Admiral A.K. Chatterjee	4 March 1966-27 February 1970
Admiral S.M. Nanda	1 March 1970-28 February 1973
Admiral S.N. Kohli	1 March 1973-28 February 1976
Admiral J.L. Cursetji	1 March 1976-28 February 1979
Admiral R.L. Pereira	1 March 1979-28 February 1982
Admiral O.S. Dawson	1 March 1982-30 November 1984
Admiral R.H. Tahiliani	1 December 1984-30 November 1987
Admiral J.G. Nadkarni	1 December 1987-30 November 1990
Admiral Ramdas	1 December 1990-30 September 1993
Admiral V.S. Shekhawat	1 October 1993-30 September 1996
Admiral Vishnu Bhagwat	1 October 1996-30 December 1998
Admiral Sushil Kumar	30 December 1998 - 29 December 2001
Admiral Madhvendra Singh	29 December 2001 - till date

CHIEFS OF AIR STAFF

Name	Tenure
Air Marshal Sir Thomas Elmhirst	15 August 1947-21 February 1950
Air Marshal Sir Ronald Chapman	22 February 1950-9 December 1951
Air Marshal Sir Gerald Gibbs	10 December 1951-31 March 1954
Air Marshal S. Mukherjee	1 April 1954-8 November 1960

Air Marshal A.M. Engineer	1 December 1960-31 July 1964
Air Chief Marshal Arjan Singh	1 August 1964-15 July 1969
Air Chief Marshal P.C. Lal	16 July 1969-15 January 1973
Air Chief Marshal O.P. Mehra	16 January 1973-31 January 1976
Air Chief Marshal H. Moolgavkar	1 February 1976-31 August 1978
Air Chief Marshal I.H. Latif	1 December 1978-31 August 1981
Air Chief Marshal Dilbagh Singh	1 September 1981-3 September 1984
Air Chief Marshal L.M. Katre	4 September 1984-1 July 1985
Air Chief Marshal D.A. La Fontaine	3 July 1985-31 July 1988
Air Chief Marshal S.K. Mehra	1 August 1988-31 July 1991
Air Chief Marshal N.C. Suri	1 August 1991-31 July 1993
Air Chief Marshal S.K. Kaul	1 August 1993-31 December 1995
Air Chief Marshal S.K. Sareen	31 December 1995-31 December 1998
Air Chief Marshal A.Y. Tipnis	1 January 1999-31 December 2001
Air Chief Marshal S. Krishnaswamy	31 December 2001-till date

WINNERS OF PARAM VIR CHAKRA

Major Somnath Sharma, Kumaon Regiment
Posthumous-November 1947 (Kashmir Operations 1947-48)

2nd Lt. R.R. Rane, Corps of Engineers
April 1948 (Kashmir Operations 1947-48)

Company Havildar Major Piru Singh, Rajputana Rifles
Posthumous-July 1948 (Kashmir Operations 1947-48)

L/NK Karam Singh, Sikh Regiment
October 1948 (Kashmir Operations 1947-48)

Naik Jadunath Singh, Rajput Regiment
Posthumous-December 1948 (Kashmir Operations 1947-48)

Captain Gurbachan Singh Salaria, Gorkha Rifles
Posthumous-December 1961 (Congo)

Major Dhan Singh Thapa, Gorkha Rifles
October 1962 (Ladakh)

Subedar Joginder Singh, Sikh Regiment
Posthumous-October 1962 (NEFA)

Major Shaitan Singh, Kumaon Regiment
Posthumous-November 1962 (Ladakh)

Comb. Abdul Hamid, Grenadiers
Posthumous-September 1965 (Operation against Pakistan)

Lt. Col. A.B. Tarapore, Poona Horse
Posthumous-September 1965 (Operation against Pakistan)

Flg. Officer Nirmal Jit Singh Sekhon, Flg. Pilot
Posthumous-December 1971 (Indo-Pakistan conflict)

Major Hoshiar Singh, Grenadiers
December 1971 (Indo-Pakistan conflict)

2/Lt. Arun Khetarpal, 17 Poona Horse
Posthumous-December 1971 (Indo-Pakistan conflict)

L/NK Albert Ekka, Brigade of Guards
Posthumous-December 1971 (Indo-Pakistan conflict)

Naib Subedar Bana Singh, J & K Light Infantry
June 1987 (Operations in Siachen Glacier)

Major Ramaswamy Parameswaran, Mahar Regiment,
Posthumous-November 1987 (IPKF Operations in Sri Lanka)

Capt Vikram Batra, 13 JAK Rif
Posthumous-June 1999 (OP Vijay in Kargil)

Lt Manoj Kumar Pandey, 1/11 GR
Posthumous-June 1999 (OP Vijay in Kargil)

Rifleman Sanjay Kumar, 13 JAK Rif
June 1999 (OP Vijay in Kargil)

Gdr Yogender Singh Yadav, 18 GDRS
June 1999 (OP Vijay in Kargil)

GALLANTRY AWARDS

The following Gallantry Awards were announced on the Independence Day 2001 :

<i>Kirti Chakra</i>	... 02
<i>Vir Chakra</i>	... 02
<i>Shaurya Chakra</i>	... 46 (14 Posthumous)
<i>Yuddh Seva Medal</i>	... 01
<i>Bar to Sena Medal (G)</i>	... 06
<i>Sena Medal (G)</i>	... 113 (7 Posthumous)
<i>Nao Sena Medal (G)</i>	... 1
<i>Vayu Sena Medal (G)</i>	... 09
<i>Ati Vishisht Seva Medal</i>	... 01
<i>Vishisht Seva Medal</i>	... 01
<i>Sena Medal (Devotion to Duty)</i>	... 06
<i>Mention in the Despatches</i>	... 07

The following Gallantry Awards were announced on the Republic Day 2001 :

<i>Kirti Chakra</i>	... 05 (4 Posthumous)
<i>Shaurya Chakra</i>	... 22 (06 Posthumous)
<i>Param Vishisht Seva Medal</i>	... 25
<i>Bar to Ati Vishisht Seva Medal</i>	... 01
<i>Ati Vishisht Seva Medal</i>	... 38
<i>Yuddh Seva Medal</i>	... 07
<i>Bar to Vishisht Seva Medal</i>	... 02
<i>Vishisht Seva Medal</i>	... 123
<i>Bar to Sena Medal (G)</i>	... 02

<i>Sena Medal (G)</i>	... 111 (17 Posthumous)
<i>Bar to Nao Sena Medal</i>	... 01
<i>Nao Sena Medal (G)</i>	... 03
<i>Vayu Sena Medal (G)</i>	... 05
<i>Bar to Sena Medal (D)</i>	... 01
<i>Sena Medal (D)</i>	... 36
<i>Nao Sena Medal (D)</i>	... 08
<i>Vayu Sena Medal (D)</i>	... 14
<i>Mention in the Despatches</i>	... 51

NATIONAL HIGHWAYS AND THEIR LENGTHS

S. No.	National Highway No.	Length in Km. (prov.)	Starting Station	Terminal Station
1	2	3	4	5
1	1	456	Delhi	Pakistan Border (near Amritsar)
2	1A	663	Jalandhar	Uri
3	1B	274	Batote	Khanabal
4	1C	8	Domel	Katra
5	2	1465	Delhi	Kolkata
6	3	1161	Agra	Mumbai
7	4	1235	Chennai	Thane (Mumbai)
8	4A	153	Belgaum	Panaji
9	4B	27	Panval-Uran (near Nhava-Sheva Port)	Kalamboli-Palaspe
10	5	1533	Chennai	Jharpokharia Junction with NH6 Orissa
11	5A	77	Haridaspur	Paradeep
12	6	1949	Kolkata	Hajira
13	7	2369	Varanasi	Kanyakumari
14	7A	51	Palayankottai	Tuticorin
15	8	1428	Delhi	Mumbai
16	8A	473	Ahmedabad	Mandvi
17	8B	206	Porbandar	Bamanbore
18	8C	46	Chiloda	Sarkhej
19	8D	127	Jetpur	Somnath
20	9	841	Pune	Machilipatnam
21	10	403	Delhi	Pakistan border (near Fazilka)
22	11	582	Agra	Bikaner
23	11A	64	Manoharpur	Dausa
24	12	890	Jabalpur	Jaipur
25	13	691	Sholapur	Mangalore
26	14	450	Beawar	Radhanpur
27	15	1526	Pathankot	Samakhiali
28	16	460	Nizamabad	Jagadalspur
29	17	1269	Panvel	Edapally (near Cochin)
30	17A	19	Cortalim	Marmagao
31	17B	40	Panda	Vasco

32	18	369	Chittoor	Kurnool
33	19	240	Ghazipur (on NHNo29)	Near Patna
34	20	220	Pathankot	Mandi
35	21	323	Chandigarh	Manali
36	21A	65	Pinjore	Swarghat
37	22	459	Ambala	Shipkila
38	23	459	Chas	Nuatta (near Talcher)
39	24	438	Delhi	Lucknow
40	24A	17	Bakshi-Ka-Talab	NH 28 (Chenhat)
41	25	352	Lucknow	Shivpuri
42	25A	31	NH 25 (km 19)	Bakshi-Ka-Talab
43	26	396	Jhanshi	Lakhnadon
44	27	93	Allahabad	Mangawan
45	28	570	Lucknow	Barauni
46	28A	68	Pipra Kothi	Raxaul (Nepal border)
47	29	196	Varanasi	Gorakhpur
48	30	230	Mohania	Bakhtiyarpur
49	30A	65	Phatuha	Barh
50	31	1125	Barhi	Guwahati
51	31A	92	Sivok	Gangtok
52	31B	19	North Salmara	Jogighopa
53	31C	235	Near Galgalia	Junction with NH.31 near Bijni
54	32	179	Gobindpur	Jamshedpur
55	33	352	Barhi	Baharagora
56	34	443	Kolkata	Dalkola
57	35	61	Barasat	Bangaon (Bangladesh Border)
58	36	170	Nagaon	Dimapur
59	37	680	Panchratna (near Goalpara)	Saikhoghat
60	37A	23	Kuarital	Near Tezpur
61	38	54	Makum	Lekhapani
62	39	436	Numaligarh	Myanmar border (near Moreh)
63	40	216	Jorbat	Jowai
64	41	51	Kolaghat	Haldia
65	42	261	Cuttack	Sambalpur
66	43	551	Raipur	Natavalasa
67	44	630	Shillong	Sabroom
68	44A	230	Aizawl	Manu
69	45	387	Chennai	Dindigul
70	45A	190	Villupuram	Nagapattinam
71	45B	257	Trichy	Tuticorin
72	46	132	Krishnagiri	Ranipet
73	47	640	Salem	Kanyakumari
74	47A	6	Willingdon Island	Cochin Bypass NH.47
75	48	328	Nelamangala (near Bangalore)	Mangalore
76	49	440	Cochin	Dhanshkodi
77	50	192	Nasik	Pune
78	51	149	Paikan (on NH.37)	Dalu
79	52	850	Baihata Charali (on NH.31)	Junction on NH.37 (near Saikhoghat)
80	52A	57	Bander Dewa (on NH52)	Gohpur
81	52B	31	Kulajan	Dibrugarh
82	53	320	Near Badarpur (on NH.44)	Imphal (on NH.39)
83	54	850	Daboka	Tuipang
84	54A	9	Theriat	Lunglei
85	54B	27	Venus Saddle	Sahia
86	55	77	Siliguri	Darjeeling
87	56	285	Lucknow	Varanasi

88	56A	13	NH.28 (Chenhat)	NH.56 (km 16)
89	56B	19	NH.56 (km 16)	NH.25 (km 19)
90	57	310	Muzaffarpur	Purnea
91	NE-I	93	Ahmedabad	Vadodara
92	58	527	Ghaziabad	Mana (Pass)
93	59	350	Ahmedabad	Indore
94	60	305	Balasore	Asansol
95	61	240	Kohima	Jhanji
96	62	195	Damra	Dalu
97	63	432	Ankola	Gooty
98	64	256	Chandigarh	Dabwali
99	65	690	Ambala	Pali
100	66	244	Pondy	Krishnagiri
101	67	357	Nagapattinam	Coimbatore
102	68	134	Ulundrupet	Salem
103	69	350	Nagpur	Obaidullaganj
104	70	170	Jalandhar	Mandi
105	71	307	Jalandhar	Bawal
106	71A	72	Rohtak	Panipat
107	72	200	Ambala	Hardwar
108	73	188	Roorkee	Panchkula
109	74	300	Hardwar	Bareilly
110	75	955	Gwalior	Ranchi
111	76	1007	Pindwara	Allahabad
112	77	142	Hajipur	Sonabarsa
113	78	559	Katni	Gumla
114	79	500	Ajmer	Ghat Bilod (Indore)
115	80	310	Mokamah	Farakka
116	150	700	Aizawl	Kohima
117	200	740	Raipur	Chandikhoh
118	201	310	Borigumma	Bargarh
119	202	280	Hyderabad	Bhopalipatnam
120	203	59	Bhubaneswar	Puri
121	204	126	Ratnagiri	Kohlapur
122	205	442	Ananthapur	Chennai
123	206	363	Tumkur	Honnabar
124	207	155	Hosur	Nelamangala
125	208	195	Kollam	Tirumanglam (Madurai)
126	209	456	Dindigul	Bangalore
127	210	160	Trichy	Ramanathapuram
128	211	400	Solapur	Dhule
129	81	100	Kora	Malda
130	82	130	Gaya	Mokamah
131	83	130	Patna	Dobhi
132	84	60	Arrah	Buxar
133	85	95	Chhapra	Gopalganj
134	86	674	Kanpur	Dewas
135	87	83	Rampur	Nainital
136	88	115	Simla	Mataur
137	89	300	Ajmer	Bikaner
138	212	250	Kozhikode	Kollegal
139	213	130	Palghat	Kozhikode
140	214	270	Kathipudi	Pamarru

141	215	348	Panikoli	Rajamunda
142	152	40	Patacharkuchi	Bhutan Border
143	151	14	Karimganj	Bangladesh Border
144	2A	25	Sikandara	Bhognipur
145	8E	220	Somnath	Bhavnagar
146	12A	280	Jabalpur	Simga
147	59A	264	Indore	Betul
148.	90	100	Baran	Aklara
149	91	405	Ghaziabad	Kanpur
150	92	171	Bhongaon	Gwalior
151	93	220	Agra	Moradabad
152	94	160	Rishikesh	Yamunotri
153	95	225	Chandigarh (Kharar)	Ferozepur
154	96	160	Faizabad	Allahabad
155	97	45	Ghazipur	Saiyedraja
156	98	207	Patna	Rajhara
157	99	110	Dobhi	Chandwa
158	100	118	Chatra	Bagodar
159	101	60	Chhapra	Barauli
160	102	80	Chhapra	Muzaffarpur
161	103	55	Hajipur	Mushrigharari
162	104	160	Chakia	Narharia
163	105	66	Darbhanga	Jaynagar
164.	106	130	Birpur	Bihpur
165	107	145	Maheshkhunt	Purnea
166	153	60	Ledo	Indo/Myanmar Border
167	154	180	Daleshwar	Kanpui
168	216	80	Raigarh	Saraipalli
169	217	508	Raipur	Gopalpur
170	218	176	Bijapur	Hubli
171	219	150	Madnapalli	Krishnagiri
172	220	265	Kollam (Quilon)	Teni

IMPORTANT TRAINS

Train No. and Name	Pairs of stations between which it runs
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SHATABDI EXPRESS

2001/2002	New Delhi-Bhopal
2003/2004	New Delhi-Lucknow
2005/2006	New Delhi-Kalka
2007/2008	Chennai-Mysore (6 days a week except Tuesday)
2009/2010	Mumbai Central-Ahmedabad (6 days a week except Friday)
2011/2012	New Delhi-Chandigarh
2013/2014	New Delhi-Amritsar
2015/2016	New Delhi-Ajmer (6 days a week except Monday)

2017/2018	New Delhi-Dehradun
2019/2020	Howrah-Bokaro Steel City (6 days a week except Sunday)
2021/2022	Howrah-Rourkela (6 days a week except Saturday)
2027/2028	Mumbai CST-Pune
2029/2030	New Delhi - Amritsar (6 days a week except Monday)
2031/2032	New Delhi - Amritsar (weekly on Monday)

RAJDHANI EXPRESSES

2301/2302	New Delhi-Howrah (via Gaya) (5 days a week)
2305/2306	New Delhi-Howrah (via Patna) (Bi-weekly)
2309/2310	New Delhi-Patna (Bi-weekly)
2313/2314	New Delhi-Sealdah (via Gaya) (Bi-weekly)
2421/2422	New Delhi-Howrah-Bhubneswar (Bi-weekly)
2423/2424	New Delhi-Guwahati (Tri-weekly)
2423A/2424A	New Delhi-Guwahati-Dibrugarh Link Rajdhani Express (Weekly)
2425/2426	New Delhi-Jammu Tawi (weekly)
2429/2430	Hazrat Nizamuddin-Secunderabad-Bangalore (4 days a week)
2431/2432	Hazrat Nizamuddin-Madgoan-Trivandrum (Bi-weekly)
2433/2434	Hazrat Nizamuddin - Chennai (Bi-weekly)
2435/2436	New Delhi - Guwahati (Bi-weekly)
2951/2952	New Delhi-Mumbai Central
2953/2954	Hazrat Nizamuddin-Mumbai Central August Kranti
2957/2958	New Delhi-Ahmedabad (Tri-weekly)

SUPERFAST TRAINS

2101/2102	Lokmanya Tilak (T)-Howrah Janeswari Express (Tri-weekly)
2103/2104	Lokmanya Tilak (T)-Nagpur Samarasta Express (Weekly)
2105/2106	Mumbai - Nagpur Vidarbha Express
2123/2124	Mumbai-Pune Deccan Queen Express
2129/2130	Pune-Howrah Azad Hind Express (Tri Weekly)
2133/2134	Mumbai CST - Lucknow Pushpak Express
2137/2138	Mumbai CST-Firozpur Punjab Mail
2141/2142	Lokmanya Tilak (T) - Patna Superfast Express
2155/2156	Habibganj - Nizamuddin Bhopal Express
2165/2166	Lokmanya Tilak (T) - Varanasi Express
2179/2180	Gwalior - Nizamuddin Taj Express
2303/2304	Howrah - New Delhi Poorva Express Via Patna (4 days a week)
2307/2308	Howrah-Jodhpur Express
2307A/2308A	Bikaner-Merta Road Link Express
2311/2312	Howrah-Kalka Kalka Mail
2315/2316	Sealdah-Ajmer Ananya Express
2317/2318	Sealdah-Amritsar Akal Takht Express
2321/2322	Howrah-Mumbai CST Mail
2381/2382	Howrah-New Delhi Poorva Express Via Gaya
2391/2392	Patna-New Delhi Magadh Express
2401/2402	Patna-New Delhi Shram Jeevi Express
2403/2404	Delhi-Jammu Tawi Pooja Express
2405/2406	Bhusaval - Nizamuddin Gondwana Express (Tri-weekly)
2409/2410	Bilaspur-Nizamuddin Gondwana Express (5 days a week)
2411/2412	Jabalpur-Nizamuddin Gondwana Express

2413/2414	Jaipur - Delhi Express
2415/2416	Indore Nizamuddin Delux Express
2417/2418	Allahabad - New Delhi Prayagraj Express
2419/2420	Lucknow - New Delhi Gomti Express
2461/2462	Delhi - Jodhpur Mandore Express
2465/2466	Jodhpur - Sawai Madhopur Express
2467/2468	Bikaner - Jaipur Intercity Express
2471/2472	Mumbai - New Delhi - Jammu Tawi Swaraj Express
2473/2474	Ahmedabad - New Delhi - Jammu Tawi Sarvodaya Express
2475/2476	Hapa - New Delhi - Jammu Tawi Express
2477/2478	Jamnagar - Jammu Tawi Express
2497/2498	Nizamuddin - Amritsar Shan-E-Punjab Express
2553/2554	Barauni - New Delhi Vaishali Express
2605/2606	Chennai - Trichchy Pallavan Express
2607/2608	Chennai-Bangalore Lalbagh Express
2615/2616	Chennai - New Delhi G.T. Express
2617/2618	Ernakulam - Nizamuddin - Mangla Express
2619/2620	Lokmanya Tilak (T) - Mangalore Matsyagandha Express
2621/2622	Chennai - New Delhi Tamil Nadu Express
2625/2626	Trivandrum - New Delhi Kerala Express
2627/2628	Bangalore - New Delhi Karnataka Express
2635/2636	Chennai - Mudrai Vaigai Express
2639/2640	Chennai-Bangalore Brindavan Express
2643/2644	Trivendrum - Nizamuddin Express
2645/2646	Ernakulam - Nizamuddin Express
2647/2648	Coimbatore - Nizamuddin Kongu Express
2673/2674	Chennai - Coimbatore Cheran Express
2675/2676	Chennai-Coimbatore Kovai Express
2677/2678	Coimbatore-Bangalore Express
2679/2680	Chennai - Coimbatore Intercity Express
2703/2704	Howrah-Secunderabad Falukhnuma Express
2711/2712	Vijayawada-Chennai Pinakini Express
2713/2714	Vijayawada-Secunderabad Satavahana Express
2715/2716	Nanded-Amritsar Suchkhund Express
2717/2718	Visakhapatnam - Vijayawada Ratnachal Express
2723/2724	Hyderabad - New Delhi A.P. Express
2725/2726	Hubli-Bangalore Intercity Express
2747/2748	Guntur - Secunderabad Palnad Express
2759/2760	Chennai-Hyderabad Charminar Express
2763/2764	Tripati- Secunderabad Express
2779/2780	Vasco-Nizamuddin Goa Express
2801/2802	Puri - New Delhi (Purushottam Express)
2803/2804	Visakhapatnam - Nizamuddin Swarn Jayanti Express
2805/2806	Visakhapatnam-Vijayawada Janmabhoomi Express (6 days a week)
2807/2808	Visakhapatnam - Nizamuddin Samata Express (Tri-weekly)
2809/2810	Howrah - Mumbai Mail
2815/2816	Puri - New Delhi Express (4 days a week)
2821/2822	Howrah-Bhubaneswar Dhauli Express

2841/2842	Howrah-Chennai Coromandal Express
2859/2860	Howrah-Mumbai CST Geetanjali Express
2901/2902	Mumbai - Ahmedabad Gujarat Mail
2903/2904	Mumbai-Amritsar Golden Temple Mail
2915/2916	Ahmedabad - Delhi Ashram Express
2925/2926	Mumbai-Amritsar Paschim Express
2927/2928	Mumbai Central -Vadodara Express
2933/2934	Mumbai Central -Ahmedabad Karavati Express
2955/2956	Mumbai Central -Jaipur Express
2961/2962	Bandra-Indore Avantika Express
2963/2964	Bandra - Vadodara Sayaji Nagar Express

SOME OTHER IMPORTANT LONG DISTANCE TRAINS

1019/1020	Mumbai CST-Bhubneswar Konark Express
1077/1078	Jammu Tawi-Pune Jhelum Express
1081/1082	Mumbai CST-Kanyakumari Express
3005/3006	Amritsar-Howrah Mail
3073/3074	Howrah-Jammu Tawi Himgiri Express (Tri-weekly)
4055/4056	Delhi-Dibrugarh Brahmaputra Mail
4095/4096	New Delhi-Kalka Himalayan Queen
4229/4230	New Delhi-Lucknow Lucknow Mail
5107/5108	Amritsar-Katihar Express
5209/5210	Barauni - Amritsar Jan Sewa Exp. (5 days a Week)
5609/5610	Delhi-Guwahati Avadh Assam Express
5621/5622	New Delhi-Guwahati N.E. Express
5645/5646	Guwahati-Dadar Express Via Barauni (Bi-weekly)
5647/5648	Guwahati-Dadar Express Via Bhagalpur (weekly)
6003/6004	Chennai-Howrah Mail
6317/6318	Jammu Tawi-Kanyakumari Himsagar Express (weekly)
6319/6320	Chennai-Trivandrum Mail
6505/6506	Hazrat Nizammuddin - Mysore Via Hubli (Swamajayanti Express) (weekly)
6529/6530	Mumbai CST-Bangalore Udyan Express
6717/6718	Chennai-Madurai Pandyan Express
6877/6878	Chennai-Trichy Rock Fort Express
7007/7008	Hyderabad-Vishakhapatnam Godavari Express
8603/8604	Delhi-Hatia Jarkhand Swaranjayanti Express Via Barkakana (Bi-weekly)
8605/8606	Delhi-Hatia Jarkhand Swaranjayanti Express Via Gomoh (Bi-Weekly)

HEIGHT OF SOME IMPORTANT INDIAN MOUNTAIN PEAKS

Peak	Height in meter above Mean Sea Level
1. K2	8,611 in Pak-occupied territory
2. Kanchenjunga	8,598
3. Nanga Parbat	8,126
4. Gasher Brum	8,068 in Pak-occupied territory
5. Broad Peak	8,047 in Pak-occupied territory
6. Disteghil Sar	7,885 -do-
7. Masher Brum E	7,821
8. Nanda Devi	7,817
9. Masher Brum W	7,806 in Pak-occupied territory
10. Rakaposhi	7,788 -do-
11. Kamet	7,756
12. Saser Kangri	7,672
13. Skyang Kangri	7,544 in Pak-occupied territory
14. Sia Kangri	7,422 -do-
15. Chaukhamba (Badrinath Peak)	7,138
16. Trisul West	7,138
17. Nunkun	7,135
18. Pauhunri	7,128
19. Kangto	7,090
20. Dunagiri	7,066

LENGTH OF SOME IMPORTANT INDIAN RIVERS

River	Length (km)
1. Indus	2,900
2. Brahmaputra	2,900
3. Ganga	2,510
4. Godavari	1,450
5. Narmada	1,290
6. Krishna	1,290
7. Mahanadi	890
8. Kaveri	760

AMENDMENTS TO THE CONSTITUTION

1. *The Constitution (First Amendment) Act, 1950*—This amendment provided for several new grounds of restrictions to the right to freedom of speech and expression and the right to practise any profession or to carry on any trade or business as contained in Article 19 of the Constitution. These restrictions related to public order, friendly relations with foreign States or incitement to an offence in relation to the right to freedom of speech, and to the prescribing of professional or technical qualifications or the carrying on by the State, etc., of any trade, business, industry or service in relation to the right to carry on any trade or business. The amendment also inserted two new Articles, 31A and 31B and the Ninth Schedule to give protection from challenge to land reform laws.
2. *The Constitution (Second Amendment) Act, 1952*—By this amendment, the scale or representation for election to the Lok Sabha was readjusted.
3. *The Constitution (Third Amendment) Act, 1954*—This amendment substituted entry 33 of List III (Concurrent List) of the Seventh Schedule to make it correspond to Article 369.
4. *The Constitution (Fourth Amendment) Act, 1955*—Article 31 (2) of the Constitution was amended to re-state more precisely the State's power of compulsory acquisition and requisitioning of private property and distinguish it from cases where the operation of regulatory or prohibitory laws of the States results in "deprivation of property". Article 31A of the Constitution was also amended to extend its scope to cover categories of essential welfare legislation like abolition of zamindaris, proper planning of urban and rural areas and for effecting a full control over the mineral and oil resources of the country, etc. Six Acts were also included in the Ninth Schedule. Article 305 was also amended to save certain laws providing of State Monopolies.
5. *The Constitution (Fifth Amendment) Act, 1955*—This amendment made a change in Article 3 so as to empower President to specify a time limit for state legislatures to convey their views on the proposed Central laws affecting areas, boundaries, etc., of their states.
6. *The Constitution (Sixth Amendment) Act, 1956*—This amendment made some changes in Articles 269 and 286 relating to taxes on sale and purchase of goods in the course of inter-state trade and commerce. A new entry 92 A was added to the Union List of the Seventh Schedule to the Constitution.
7. *The Constitution (Seventh Amendment) Act, 1956*—This amendment Act purported to give effect to the recommendations of the State Reorganisation Commission and the necessary consequential changes. Broadly, the then existing states and territories were changed to have two-fold classification of states and union territories. The amendment also provided for composition of the House of the People, re-adjustment after every census, provisions regarding the establishment of new High Courts, High Court Judges etc.
8. *The Constitution (Eighth Amendment) Act, 1960*—Article 334 was amended with a view to extending the period of reservation of seats for Scheduled Castes and Scheduled Tribes and to the Anglo-Indian community by nomination in Parliament and in the State Legislatures for a further period of ten years.
9. *The Constitution (Ninth Amendment) Act, 1960*—The purpose of this amendment is to give effect to the transfer of certain territories to Pakistan in pursuance of the agreement extended into between Governments of India and Pakistan. This amendment was necessitated in view of the Judgement of Supreme Court in *In Re Berubari Union* by which it was held that any agreement to cede a territory to another country could not be implemented by a law made under Article 3 but would only be implemented by an amendment of the Constitution.
10. *The Constitution (Tenth Amendment) Act, 1961*—This Act amended Article 240 and the First Schedule in order to include areas of Dadra and Nagar Haveli as a Union Territory and to provide for its administration under the regulation making powers of President.

11. *The Constitution (Eleventh Amendment) Act, 1961*—The purpose of this amendment was to amend Articles 66 and 71 of the Constitution to provide that the election of President or Vice President could not be challenged on the ground of any vacancy in the appropriate electoral college.
12. *The Constitution (Twelfth Amendment) Act, 1962*—This amendment sought to include Goa, Daman and Diu as a Union Territory and to amend Article 240 for the purpose.
13. *The Constitution (Thirteenth Amendment) Act, 1962*—By this amendment, a new Article 371A was added to make special provisions with respect to state of Nagaland in pursuance of an agreement between Government of India and Naga People's Convention.
14. *The Constitution (Fourteenth Amendment) Act, 1962*—By this Act, Pondicherry was included in the First Schedule as a Union Territory, and this Act has also enabled the creation of Legislature by Parliamentary law for Himachal Pradesh, Manipur, Tripura, Goa, Daman and Diu and Pondicherry.
15. *The Constitution (Fifteenth Amendment) Act, 1963*—This amendment provided for increase in the age of retirement of High Court Judge and for the provision of compensatory allowance to judges who are transferred from one High Court to another. The Act also provided for appointment of retired judges to act as judges of High Court. Article 226 was also enlarged to empower High Court to issue direction, orders or writs to any Government authority, etc., if the cause of action for the exercise of such power arose in the territories wherein the High Court exercise jurisdiction notwithstanding that seat of such Government authority is not within those territories. The Act also provided for the exercise of powers of Chairman of the Service Commissions, in their absence, by one of their Members.
16. *The Constitution (Sixteenth Amendment) Act, 1963*—Article 19 was amended by this Act to impose further restriction on the rights to freedom of speech and expression, to assemble peaceably and without arms and to form associations in the interests of sovereignty and integrity of India. The oath of affirmation to be subscribed by candidates seeking election to Parliament and State Legislatures have been amended to include as one of the conditions that they will uphold the sovereignty and integrity of India. The amendments are intended to promote national integration.
17. *The Constitution (Seventeenth Amendment) Act, 1964*—Article 31A was further amended to prohibit the acquisition of land under personal cultivation unless the market value of the land is paid as compensation and the definition of "estate" as contained in that Article had also been enlarged with retrospective effect. The Ninth Schedule had also been amended to include 44 more Acts.
18. *The Constitution (Eighteenth Amendment) Act, 1966*—Article 3 was amended by this Act to specify that the expression "State" will include a union territory also and to make it clear that the power to form a new state under this Article includes a power to form a new state or union territory by uniting a part of a state or a union territory to another state or union territory.
19. *The Constitution (Nineteenth Amendment) Act, 1966*—Article 324 was amended to effect a consequential change as a result of the decision to abolish Election Tribunals and to hear election petitions by High Courts.
20. *The Constitution (Twentieth Amendment) Act, 1966*—This amendment was necessitated by the decision of the Supreme Courts in Chandramohan vs. State of Uttar Pradesh in which certain appointments of District Judges in State of Uttar Pradesh were declared void by Supreme Court. A new Article 233A was added and the appointments made by Governor were validated.
21. *The Constitution (Twenty-first Amendment) Act, 1967*—By this amendment, Sindhi Language was included in the Eighth Schedule.

22. *The Constitution (Twenty-second Amendment) Act, 1969*—This act was enacted to facilitate the formation of a new autonomous state of Meghalaya within state of Assam.
23. *The Constitution (Twenty-third Amendment) Act, 1969*—Article 334 was amended so as to extend the safeguards in respect of reservation of seats in Parliament and State Legislatures for Schedules Castes and Scheduled Tribes as well as for Anglo-Indians for a further period of ten years.
24. *The Constitution (Twenty-fourth Amendment) Act, 1971*—This amendment was passed in the context of a situation that emerged with the verdict in Golaknath's case by Supreme Court. Accordingly, this Act amended Article 13 and Article 368 to remove all doubts regarding the power of Parliament to amend the Constitution including the Fundamental Rights.
25. *The Constitution (Twenty-fifth Amendment) Act, 1971*—This amendment further amended Article 31 in the wake of the Bank Nationalisation case. The word 'amount' was substituted in place of 'compensation' in the light of the judicial interpretation of the word 'compensation' meaning 'adequate compensation'.
26. *The Constitution (Twenty-sixth Amendment) Act, 1971*—By this amendment, the privy and privileges of the former rulers of Indian states were abolished. This amendment was passed as a result of Supreme Court decision in Madhav Rao's case.
27. *The Constitution (Twenty-seventh Amendment) Act, 1971*—This amendment was passed to provide for certain matters necessitated by the reorganisation of north-eastern states. A new Article 239B was inserted which enabled the promulgation of Ordinances by Administrators of certain union territories.
28. *The Constitution (Twenty-eighth Amendment) Act, 1972*—The amendment was enacted to abolish the special privileges of the members of Indian Civil Services in matters of leave, pension and rights as regard to disciplinary matters.
29. *The Constitution (Twenty-ninth Amendment) Act, 1972*—The Ninth Schedule to the Constitution was amended to include therein two Kerala Acts on land reforms.
30. *The Constitution (Thirtieth Amendment) Act, 1972*—The purpose of the amendment was to amend Article 133 in order to do away with the valuation test of Rs 20,000 as fixed therein, and to provide instead for an appeal to Supreme Court in Civil proceedings only on a certificate issued by High Court that the case involves a substantial question of law of general importance and that in opinion of High Court, the question needs to be decided by Supreme Court.
31. *The Constitution (Thirty-first Amendment) Act, 1973*—This Act *inter alia* raises the upper limit for the representation of states in the Lok Sabha from 500 to 525 and reducing the upper limit for the representation of union territories from 25 members to 20.
32. *The Constitution (Thirty-second Amendment) Act, 1973*—This Act provided the necessary constitutional authority for giving effect to the provision of equal opportunities to different areas of the State of Andhra Pradesh and for the constitution of an Administrative Tribunal with jurisdiction to deal with grievances relating to public services. It also empowered Parliament to legislate for the establishment of a Central university in the State.
33. *The Constitution (Thirty-third Amendment) Act, 1974*—By this amendment, Articles 101 and 190 were amended in order to streamline the procedure for resignation of Members of Parliament and State Legislatures.
34. *The Constitution (Thirty-fourth Amendment) Act, 1974*—By this Act, twenty more land tenure and land reforms laws enacted by various State Legislatures were included in the Ninth Schedule.
35. *The Constitution (Thirty-fifth Amendment) Act, 1974*—By this Act a new Article 2A was

added thereby conferring on Sikkim the status of an associate State of Indian Union. Consequent amendments were made to Articles 80 and 81. A new schedule *i.e.*, Tenth Schedule, was added laying down terms and conditions of association of Sikkim with the Union.

36. *The Constitution (Thirty-sixth Amendment) Act, 1975*—This enacted to make Sikkim a full-fledged State of Indian Union and to include it in the First Schedule to the Constitution and to allot to Sikkim one seat each in the Council of States and in the House of the People. Article 2A and the Tenth Schedule inserted by the Constitution (Thirty-fifth Amendment) Act were omitted and Articles 80 and 81 were suitably amended.

37. *The Constitution (Thirty-seventh Amendment) Act, 1975*—By this Act, Union Territory of Arunachal Pradesh was provided with a Legislative Assembly. Article 240 of the Constitution was also amended to provide that as in the case of other union territories with Legislatures, the power of President to make regulations for the Union Territory of Arunachal Pradesh may be exercised only when the assembly is either dissolved or its functions remain suspended.

38. *The Constitution (Thirty-eighth Amendment) Act, 1975*—This Act amended Articles 123, 213 and 352 of the Constitution to provide that the satisfaction of President or Governor contained in these Articles would be called in question in any court of law.

39. *The Constitution (Thirty-ninth Amendment) Act, 1975*—By this Act, disputes relating to the election of President, Vice-President, Prime Minister and Speaker are to be determined by such authority as may be determined by Parliamentary Law. Certain Central enactments were also included in the Ninth Schedule by this Act.

40. *The Constitution (Fortieth Amendment) Act, 1976*—This act provided for vesting in the Union of all mines, minerals and other things of value laying in the ocean within the territorial waters or the continental shelf or the exclusive economic zone of India. It further provided that all other resources of the exclusive economic zone of India shall also vest in the Union. This act also provided that the limits of the territorial waters, the continental shelf, the exclusive economic zone and the maritime zones of India shall be as specified from time by or under any law made by Parliament. Also some more Acts were added to the Ninth Scheme.

41. *The Constitution (Forty-first Amendment) Act, 1976*—By this Act, Article 316 was amended to raise the retirement age of Members of State Public Service Commissions and Joint Public Service Commissions from 60 to 62 years.

42. *The Constitution (Forty-second Amendment) Act, 1976*—This act made a number of important amendments in the Constitution. These amendments were mainly for purpose of giving effect to the recommendations of Swaran Singh Committee.

Some of the important amendments made are for the purpose of spelling out expressly the high ideals of socialism, secularism and the integrity of the nation, to make the Directive Principles more comprehensive and giving them precedence over those Fundamental Rights which have been allowed to be relied upon to frustrate socio-economic reforms. The amendment Act also inserted a new chapter on the Fundamental Duties of citizens and made special provisions for dealing with anti-national activities, whether by individuals or by associations. The judiciary provisions were also amended by providing for a requirement as to the minimum number of judges for determining question as to the constitutional validity of law and for a special majority of not less than two-third for declaring any law to be constitutionally invalid.

To reduce the mounting arrears in High Courts and to secure the speedy disposal of service matters, revenue matters and certain other matters of special importance in the context of socio-economic development and progress, this amendment Act provided for the creation of Administrative and other tribunals for dealing with such matters while preserving the Jurisdiction of the Supreme Court in regard to such matters under Article 136 of the Constitution. Certain modifications in the writ jurisdiction of High Courts under Article 226 were also made.

43. *The Constitution (Forty-third Amendment) Act, 1977*—This Act inter alia provided for

the restoration of the jurisdiction of the Supreme Court and High Courts, curtailed by the enactment of the Constitution (Forty-second Amendment) Act, 1976 and accordingly Articles 32A, 131A, 144A, 226A and 228A included in the Constitution by the said amendment, were omitted by this Act. The Act also provided for the omission of Article 31 which conferred special powers on Parliament to enact certain laws in respect of anti-national activities.

44. *The Constitution (Forty-fourth Amendment) Act, 1978*—The right to property which had been the occasion for more than one amendment of Constitution was omitted as a Fundamental Right and it was made only as a legal right. It was, however, ensured that the removal of the right to property from the list of Fundamental Rights would not affect the right of minorities to establish and administer educational institutions of their choice. Article 352 of the Constitution was amended to provide "armed rebellion" as one of the circumstances for declaration of emergency. Internal disturbance not amounting to armed rebellion would not be a ground for the issuance of a Proclamation. The right to personal liberty as contained in Articles 21 and 22 is further strengthened by the provision that a law for preventive detention cannot authorise, in any case, detention for a longer period than two months unless an Advisory Board has reported that there is sufficient cause for such detention. The additional safeguard has also been provided by the requirements that Chairman of an Advisory Board shall be a serving Judge of the appropriate High Court and that the Board shall be constituted in accordance with the recommendations of the Chief Justice of that High Court.

With a view to avoiding delays, Articles 132 and 134 were amended and a new Article 134A was inserted to provide that a High Court should consider the question of granting a certificate for appeal to Supreme Court immediately after the delivery of the judgement, final order or sentence concerned on the basis of an oral application by a party or, if the High Court deems it so to do, on its own. The other amendments made by the Act are mainly for removing or correcting the distortions which came into the Constitution by reason of the amendment initiated during the period of internal emergency.

45. *The Constitution (Forty-fifth Amendment) Act, 1980*—This was passed to extend safeguards in respect of reservation of seats in Parliament and State Assemblies for Scheduled Castes, Scheduled Tribes as well as for Anglo-Indians for a further period of ten years.

46. *The Constitution (Forty-sixth Amendment) Act, 1982*—Article 269 was amended so that the tax levied on the consignment of goods in the course of inter-state or commerce shall be assigned to the states. This Article was also amended to enable Parliament to formulate by law principle for determining when a consignment of goods takes place in the course of inter-state trade or commerce. A new entry 92B was also inserted in the Union List to enable the levy of tax on the consignment of goods where such consignment takes place in the course of inter-state trade or commerce.

Clause (3) of Article 286 was amended to enable Parliament to specify, by law, restrictions and conditions in regard to the system of levy rates and other incidence of tax on the transfer of goods involved in the execution of a works contract, on the delivery of goods on hire-purchase or any system of payment of instalments, etc.

Article 366 was also suitably amended to insert a definition of "tax on the sale or purchase of goods" to include transfer for consideration of controlled commodities, transfer of property in goods involved in the execution of a works contract, delivery of goods on hire-purchase or any system of payment by instalments, etc.

47. *The Constitution (Forty-seventh Amendment) Act, 1984*—This amendment is intended to provide for the inclusion of certain land Reforms Acts in the Ninth Schedule to the Constitution with a view to obviating the scope of litigation hampering the implementation process of those Acts.

48. *The Constitution (Forty-eighth Amendment) Act, 1984*—The Proclamation issued by President under Article 356 of the Constitution with respect to the State of Punjab cannot be continued in force for more than one year unless the special conditions mentioned in clause

(5) of the said Article are satisfied. As it is felt that the continued force of the said Proclamation is necessary, therefore, the present amendment had been effected so as to make the conditions mentioned in clause (5) of Article 356 inapplicable in the instant case.

49. *The Constitution (Forty-ninth Amendment) Act, 1984*—Tripura Government recommended that the provisions of the Sixth Schedule to the Constitution may be made applicable to tribal areas of that State. The amendment involved in this Act is intended to give a constitutional security to the autonomous District Council functioning in the State.

50. *The Constitution (Fiftieth Amendment) Act, 1984*—by article 33 of the constitution, parliament is empowered to enact laws determining to what extent any of the rights conferred by part iii of the constitution shall, in their application to the members of the armed forces or the forces charged with the maintenance of public order, be restricted or abrogated so as to ensure proper discharge of their duties and maintenance of discipline among them.

It was proposed to amend Article 33 so as to bring within its ambit:

(i) the members of the Force charged with the protection of property belonging to or in the charge or possession of the state; or

(ii) persons employed in any bureau or other organisation established by the state for purposes of intelligence or counter-intelligence; or

(iii) persons employed in or in connection with the telecommunication systems set up for the purposes of any Force, bureau or organisation.

Experience has revealed that the need for ensuring proper discharge of their duties and maintenance of discipline among them is of paramount importance in the national interest.

51. *The Constitution (Fifty-first Amendment) Act, 1984*—Article 330 has been amended by this Act for providing reservation of seats for Scheduled Tribes in Meghalaya, Nagaland, Arunachal Pradesh and Mizoram in Parliament and Article 332 has been amended to provide similar reservation in the Legislative Assemblies of Nagaland and Meghalaya to meet the aspirations of local tribal population.

52. *The Constitution (Fifty-second Amendment) Act, 1985*—It amends the Constitution to provide that a Member of Parliament or a State Legislature who defects or is expelled from the party which set him up as a candidate in the election or if an independent member of the House joins a political party after expiry of six months from the date on which he takes seat in the House shall be disqualified to remain a member of the House. The Act also makes suitable provisions with respect to splits in and merger of political parties.

53. *The Constitution (Fifty-third Amendment) Act, 1986*—This has been enacted to give effect to the Memorandum of Settlement of Mizoram which was signed by Government of India and Mizoram Government with Mizoram National Front on 30 June 1986. For this purpose, a new Article 371G has been inserted in the Constitution *inter alia* preventing application of any Act of Parliament in Mizoram in respect of religious or social practices of Mizos, Mizos' customary law and procedure, administration of civil and criminal practice involving decisions according to Mizos' customary law and ownership and transfer of land unless a resolution is passed in the Legislative Assembly to that effect. This, however, will not apply to any Central Act already in force in Mizoram before the commencement of this amendment. The new Article also provides that the Legislative Assembly of Mizoram shall consist of not less than 40 members.

54. *The Constitution (Fifty-fourth Amendment) Act, 1986*—This Act increases the salaries of Supreme Court and High Court judges as follows :

Chief Justice of India	Rs 10,000 per month
Judges of Supreme Court	Rs 9,000 per month
Chief Justice of High Court	Rs 9,000 per month
Judges of High Court	Rs 8,000 per month

This Act amended Part 'D' of the Second Schedule to the Constitution to give effect to the above increases in the salaries of judges and to make an enabling provision in Articles 125 and 221 to provide for changes in the salaries of judges in future by Parliament by law.

55. *The Constitution (Fifty-fifth Amendment) Act, 1986*—This Act seeks to give effects to the proposal of Government of India to confer statehood on the Union Territory of Arunachal Pradesh and for this purpose, a new Article 371H has been inserted which, *inter alia*, confers, having regard to the sensitive location of Arunachal Pradesh to vest special responsibility on Governor of the new State of Arunachal Pradesh with respect to law and order in the State and in the discharge of his functions, the Governor shall after consulting the Council of Ministers, exercise his individual judgement, as to the action to be taken and this responsibility shall cease when President so directs. The new Article also provides that the new Legislative Assembly of the new State of Arunachal Pradesh, shall consist of not less than thirty members.

56. *The Constitution (Fifty-sixth Amendment) Act, 1987*—Government of India has proposed to constitute the territories comprised in Goa District of the Union Territory of Goa, Daman and Diu as the State of Goa and the territories comprised in Daman and Diu districts of that Union Territory as a new Union Territory of Daman and Diu. In this context, it was proposed that the Legislative Assembly of the new State of Goa shall consist of 40 members. The existing Legislative Assembly of the Union Territory of Goa, Daman and Diu has 30 elected members and three nominated members. It was intended to make this Assembly with the exclusion of two members representing Daman and Diu districts the provisional Legislative Assembly for the new State of Goa until elections are held on the expiry of the five year terms of the existing Assembly. It was, therefore, decided to provide that the Legislative Assembly of the new State of Goa shall consist of not less than 30 members. The special provision required to be made to give effect to this proposal is carried out by this amendment.

57. *The Constitution (Fifty-seventh amendment) Act, 1987*—The Constitution (Fifty-first Amendment) Act, 1984 was enacted to provide for reservation of seats in the house of the people for scheduled tribes in Nagaland, Meghalaya, Mizoram and Arunachal Pradesh and also for reservation of seats for scheduled tribes in the legislative assemblies of Nagaland and Meghalaya by suitably amending articles 330 and 332. Even though these states are predominantly tribal, the underlying objective of the aforesaid act was to ensure that the members of scheduled tribes in these areas do not fail to secure a minimal representation because of their inability to compete with the advanced sections of the people. The Constitution (fifty-first amendment) act, though formally enforced, could not be fully implemented unless parallel action is taken to determine the seats which are to be reserved for Scheduled tribes in these areas. The number of seats reserved for Schedule Castes and Schedule Tribes in the Legislative Assembly of any State under article 332 of the constitution will have to be determined having regard to the provisions of article 332 (3) of the Constitution. However, in view of the historical background with respect to the areas comprised in north-eastern states, the circumstances obtaining in these areas in the State of development of Scheduled Tribes and other relevant considerations, it was considered necessary to provide for special arrangements with regard to the reservation for Scheduled Tribes in these areas for a temporary period so as to facilitate easy transition of these areas to the normal arrangements as envisaged in the Constitution. Article 332 of the Constitution was further amended for making a temporary provision, until the re-adjustment of seats on the basis of first census after the year 2000 under article 170 of the Constitution for these states, for the determination of the number of seats reserved for Scheduled Tribes. This amendment seeks to provide that if all the seats in the Legislative Assembly of such States in existence on the date of coming into force of this constitution amendment act are held by the members of Scheduled Tribes, all the seats except one shall be reserved for scheduled tribes and in any other case such number of seats as bears to the total number of seats a proportion not less than the number of members belonging to Scheduled Tribes in the existing assembly bears to the total number of seats in the existing assembly. The act achieves these objectives.

58. *The Constitution (Fifty-eighth Amendment) Act, 1987*—There has been general demand for the publication of authoritative text of the Constitution in Hindi. It is imperative to have an authoritative text of the Constitution for facilitating its use in the legal process. Any Hindi

version of the Constitution should not only conform to the Hindi translation published by the Constituent Assembly, but should be in conformity, with the language style and terminology adopted in the authoritative texts of Central Acts in Hindi. The Constitution has been amended to empower President of India to publish under his authority the translation of the Constitution in Hindi signed by the Members of the Constituent Assembly with such modification as may be necessary to bring it in conformity with the language, style and terminology adopted in the authoritative texts of Central Acts in Hindi language. President has also been authorised to publish the translation in Hindi of every amendment of the Constitution made in English.

59. *The Constitution (Fifty-ninth Amendment) Act, 1988*—The Act amends Article 365 (5) of the Constitution so as to facilitate the extension of a Presidential Proclamation issued under clause (1) of Article 356 beyond a period of one year, if necessary upto a period of three years, as permissible under clause (4) of Article 356 with respect to the State of Punjab because of the continued disturbed situation there. The Act also amends Article 352 of the Constitution pertaining to the Proclamation of emergency in its application to the State of Punjab and includes internal disturbance as one of the grounds for making a Proclamation in respect of the State of Punjab only. As a consequence of amendment in Article 352, Articles 358 and 359 in relation to the State of Punjab will be operative only for a period of two years from 30 March 1988, which is the date of commencement of the amendment.

60. *The Constitution (Sixtieth Amendment) Act, 1988*—The Act amends clause (2) of Article 276 of the Constitution so as to increase the ceiling of taxes on professions, trades, callings and employment from Rs 250 per annum to Rs 2,500 per annum. The upward revision of this tax will help state governments in raising additional resources. The proviso to clause (2) has been omitted.

61. *The Constitution (Sixty-first Amendment) Act, 1989*—The Act provides for reducing voting age from 21 to 18 years by amending Article 326 of the Constitution to provide to the unrepresented youth of the country an opportunity to give vent to their feelings and help them become a part of political process.

62. *The Constitution (Sixty-second Amendment) Act, 1989*—Article 334 of the Constitution lays down that the provisions of the Constitution relating to the reservation of seats for the Scheduled Castes and the Scheduled Tribes and the representation of the Anglo-Indian community by nomination in the Lok Sabha and in the Legislative Assemblies of the States shall cease to have effect on the expiry of a period of 40 years from the commencement of the Constitution. Although the Scheduled Castes and the Scheduled Tribes have made considerable progress in the last 40 years, the reasons which weighed with the Constituent Assembly in making provisions with regard to the aforesaid reservation of seats and nomination of members, have not ceased to exist. The Act amends Article 334 of the Constitution to continue the reservation for the Scheduled Castes and the Scheduled Tribes and the representation of the Anglo-Indians by nomination for a further period of 10 years.

63. *The Constitution (Sixty-third Amendment) Act, 1989*—The Constitution (Fifty-ninth Amendment) Act, 1988 was enacted in March 1988 making certain changes in regard to making a Proclamation of Emergency in Punjab and to the duration of President's rule in State. On reconsideration, the Government decided that the special powers in regard to the Proclamation of Emergency in Punjab as envisaged in the said amendment is no longer required. Accordingly the provision to clause (5) of Article 356 and Article 359A of the Constitution have been omitted.

64. *The Constitution (Sixty-fourth Amendment) Act, 1990*—This Act amends clauses (4) and (5) of Article 356 of the Constitution with a view to facilitate the extension of the proclamation issued under clause (1) of Article 356 of the Constitution on 11 May 1987 upto a total period of three years and six months in relation to the State of Punjab.

65. *The Constitution (Sixty-fifth Amendment) Act, 1990*—Article 338 of the Constitution provides for a Special Officer for the Scheduled Castes and Scheduled Tribes to investigate all matters relating to the safeguards provided for the Scheduled Castes and Scheduled Tribes under

the Constitution and to report to the President on their working. The Article has been amended for the constitution of a National Commission for Scheduled Castes and Scheduled Tribes consisting of a Chairperson, Vice Chairperson and five other Members who shall be appointed by the President by warrant under his hand and seal. The amended Article elaborates the duties of the said Commission and covers measures that should be taken by the Union or any state for the effective implementation of the reports presented by the Commission. It also provides that the Commission shall, while investigating any matter or inquiring into any complaint have all the powers of a Civil Court trying a suit and the reports of the said Commission shall be laid before Parliament and the Legislature of the states.

66. *The Constitution (Sixty-sixth Amendment) Act, 1990*—The Act protects 55 State Acts relating to land reforms and ceiling on agricultural land holdings enacted by States of Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal and administration of the Union Territory of Pondicherry, from challenge in courts, by including them in the Ninth Schedule to the Constitution.

67. *The Constitution (Sixty-seventh Amendment) Act, 1990*—The three year period in the case of proclamation issued on 11 May 1987 with respect to the State of Punjab was extended to three years and six months by the Constitution (Sixty-fourth Amendment) Act, 1990. This Act further amends clause (4) of Article 356 so as to further extend the period upto a total period of four years.

68. *The Constitution (Sixty-eighth Amendment) Act, 1991*—The three year period in the case of proclamation issued on 17 May 1987 with respect to the State of Punjab was earlier extended to four years by the Constitution (sixty-seventh Amendment) Act, 1990. This Act further amends clause (4) of Article 356 so as to further extend the period upto a total period of five years.

69. *The Constitution (Sixty-ninth Amendment) Act, 1991*—The Government of India appointed on 24 December 1987 a Committee to go into various issues connected with the administration of Delhi and to recommend measures, inter alia for the streamlining of the administrative set up. After detailed inquiry and examination, it recommended that Delhi should continue to be a union territory and may be provided with a Legislative Assembly and a Council of Ministers responsible to such assembly with appropriate powers to deal with matters of concern to the common man. The Committee also recommended that with a view to ensuring stability and permanence, arrangements should be incorporated in the constitution to give the national capital a special status among the union territories. This act has been passed to give effect to the above recommendations.

70. *The Constitution (Seventieth Amendment) Act, 1992*—While considering the (Seventy-fourth Amendment) Bill, 1991 and the Government of National Capital Territory Bill, 1991 views were expressed in both the Houses of Parliament in favour of including also the elected members of the legislative assemblies of union territories in the electoral college for the election of the President under Article 54 of the Constitution.

At present Article 54 relating to the election of the President provides for an electoral college consisting of only the elected Members of Parliament as well as the legislative assemblies of the states (not of union territories). Similarly, Article 55 providing for the manner of such election also speaks of legislative assemblies of states.

Accordingly, an Explanation was inserted in Article 54 to provide that reference to 'State' in Article 54 and 55 would include the National Capital Territory of Delhi and the Union Territory of Pondicherry for constituting the electoral college for election of the President. This would enable the elected members of the Legislative Assembly created for the Union Territory of Pondicherry under the provisions of Article 239A and of the proposed Legislative Assembly of the National Capital Territory of Delhi under Article 239AA to be included in the electoral college.

71. *The Constitution (Seventy-first Amendment) Act, 1992*—There have been demands for inclusion of certain languages in the Eighth Schedule to the Constitution. This Act amends the Eighth Schedule to the Constitution to include Konkani, Manipuri and Nepali languages in the Eighth Schedule to the Constitution.

72. *The Constitution (Seventy-second Amendment) Act, 1992*—For restoring peace and harmony in the areas of the State of Tripura where disturbed conditions prevailed, a Memorandum of Settlement was signed by the Government of India with Tripura National Volunteers on 12 August 1988.

In order to implement the said Memorandum, Article 332 of the Constitution has been amended by the Constitution (Seventy-second Amendment) Act, 1992 for making a temporary provision for the determination of the number of seats reserved for the Scheduled Tribes in the State Assembly of Tripura, until the re-adjustment of seats is made on the basis of the first Census after the year 2000 under Article 170 of the Constitution.

73. *The Constitution (Seventy-third Amendment) Act, 1993*—Article 40 of the Constitution which enshrines one of the Directive Principles of State Policy lays down that the State shall take steps to organise village *panchayats* and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

In the light of the above, a new Part IX relating to the Panchayats has been inserted in the Constitution to provide for among other things, *Gram Sabha* in a village or group of villages; constitution of *Panchayats* at village and other level or levels; direct elections to all seats in Panchayats at the village and intermediate level, if any and to the offices of Chairpersons of Panchayats at such levels; reservation of seats for the Scheduled Castes and Scheduled Tribes in proportion to their population for membership of Panchayats and office of Chairpersons in Panchayats at each level; reservation of not less than one-third of the seats for women; fixing tenure of five years for Panchayats and holding elections within a period of six months in the event of supersession of any Panchayat.

74. *The Constitution (Seventy-fourth Amendment) Act, 1993*—In many states local bodies have become weak and ineffective on account of a variety of reasons, including the failure to hold regular elections, prolonged supersession and inadequate devolutions of powers and functions. As a result, Urban Local Bodies are not able to perform effectively as vibrant democratic units of self-government.

Having regard to these inadequacies a new part IX-A relating to the Municipalities has been incorporated in the Constitution to provide for among other things, constitution of three types Municipalities, i.e., *Nagar Panchayats* for areas in transition from a rural area to urban area, Municipal Councils for smaller urban areas and Municipal Corporations for larger urban areas.

75. *The Constitution (Seventy-fifth Amendment) Act, 1994*—The operation of the Rent Control Legislations, as are today in various states, suffers from major weaknesses and has led to various unintended consequences. Some of the deleterious legal consequences include mounting and mending litigation, inability of the courts to provide timely justice, evolution of practices and systems to bypass the operations of rent legislations and steady shrinkage of rental housing market.

The Supreme Court taking note of the precarious state of rent litigation in the country in case of Prabhakaran Nair and others vs. State of Tamil Nadu (Civil Writ Petition 506 of 1986) and other writs observed that the Supreme Court and the High Courts should be relieved of the heavy burden of rent litigation. Tiers of appeals should be curtailed. Laws should be simple, rational and clear, litigations must come to end quickly.

Therefore, this Act amends Article 323B in Part XIVA of the Constitution so as to give timely relief to the rent litigants by providing for setting up of state-level Rent Tribunals in

order to reduce the tiers of appeals and to exclude the jurisdiction of all courts, except that of the Supreme Court, under Article 136 of the Constitution.

76. *The Constitution (Seventy-sixth Amendment) Act, 1994*—The policy of reservation of seats in educational institutions and reservation of appointments or posts in public services for Backward Classes, Scheduled Castes and Scheduled Tribes has had a long history in Tamil Nadu dating back to the year 1921. The extent of reservation has been increased by the State Government from time to time, consistent with the needs of the majority of the people and it has now reached the level of 69 per cent (18 per cent Scheduled Castes, one per cent Scheduled Tribes and 50 per cent Other Backward Classes).

The Supreme Court in *Indira Sawhney and others vs. Union of India and others* (AIR, 1993 SC 477) on 16 November 1992 ruled that the total reservations under Article 16(4) should not exceed 50 per cent.

The Tamil Nadu Government enacted a legislation, namely, Tamil Nadu Backward Classes, Scheduled Castes and Scheduled Tribes (Reservation of Seats in Educational Institution and of appointments or posts in the Services under the State) Bill, 1993 and forwarded it to the Government of India for consideration of the President of India in terms of Article 31-C of the Constitution. The Government of India supported the provision of the State legislation by giving the President's assent to the Tamil Nadu Bill. As a corollary to this decision, it was necessary that the Tamil Nadu Act 45 of 1994 was brought within the purview of the Ninth Schedule to the Constitution so that it could get protection under Article 31B of the Constitution with regard to the judicial review.

77. *The Constitution (Seventy-seventh Amendment) Act, 1995*—The Schedule Castes and the scheduled tribes have been enjoying the facility of reservation in promotion since 1955. The Supreme Court in its judgment dated 16 November 1992 in the case of *Indira Sawhney and Others vs. Union of India and others*, however, observed that reservation of appointments or posts under Article 16(4) of the Constitution is confined to initial appointment and cannot extend to reservation in the matter of promotion. This ruling of the Supreme Court will adversely affect the interests of the Scheduled Castes and the Scheduled Tribes. Since the representation of the Scheduled Castes and the Scheduled Tribes in services in the States have not reached the required level, it is necessary to continue the existing dispensation of providing reservation in promotion in the case of the Scheduled Castes and the Scheduled Tribes. In view of the commitment of the Government to protect the interests of the Scheduled Castes and the Scheduled Tribes, the Government have decided to continue the existing policy of reservation in promotion for the Scheduled Castes and the Scheduled Tribes. To carry out this, it was necessary to amend Article 16 of the Constitution by inserting a new clause (4A) in the said Article to provide for reservation in promotion for the Scheduled Castes and the Scheduled Tribes.

78. *The Constitution (Seventy-eighth Amendment) Act, 1995*—Article 31B of the Constitution confers on the enactments included in the Ninth Schedule to the Constitution immunity from legal challenge on the ground that they violate the fundamental rights enshrined in Part III of the Constitution. The Schedule consists of list of laws enacted by various state governments and Central Government which inter alia affect rights and interest in property including land.

In the past, whenever, it was found that progressive legislation conceived in the interest of the public was imperilled by litigation, recourse was taken to the Ninth Schedule. Accordingly, several State enactments relating to land reforms and ceiling on agricultural land holdings have already been included in the Ninth Schedule. Since the Government is committed to give importance to land reforms, it was decided to include land reform laws in the Ninth Schedule so that they are not challenged before the courts. The state governments of Bihar, Karnataka, Kerala, Orissa, Rajasthan, Tamil Nadu and West Bengal had suggested the inclusion of some of their Acts relating to land reforms in the Ninth Schedule.

Since the amendment to Acts which are already placed in the Ninth Schedule are not automatically immunised from legal challenge, a number of amending Acts along with a few

principal Acts have been included in the Ninth Schedule so as to ensure that implementation of these Acts is not adversely affected by litigation.

79. *The Constitution (Seventy-ninth Amendment) Act, 1999*—By this Act the Government has extended the reservations of seats for the Scheduled Castes and the Scheduled Tribes as well as for the Anglo-Indians in the House of the People and in the Legislative Assemblies of the States for another ten years.

80. *The Constitution (Eightieth Amendment) Act, 2000*—Based on the recommendations of the Tenth Finance Commission, an alternative scheme for sharing taxes between the Union and the States has been enacted by the Constitution (Eightieth Amendment) Act 2000. Under the new scheme of devolution of revenue between Union and the States, 26 per cent out of gross proceeds of Union taxes and duties is to be assigned to the States in lieu of their existing share in the income-tax, excise duties, special excise duties and grants in lieu of tax on railway passenger fares.

81. *The Constitution (Eighty-first Amendment) Act, 2000*—By this amendment the unfilled vacancies of a year which were reserved for the Scheduled Castes and the Scheduled Tribes for being filled up in that year in accordance with any provision for reservations made under Article 16 of the Constitution, shall be considered as a separate class of vacancies to be filled up in any succeeding year or years, and such class of vacancies shall not be considered together with the vacancies of the year in which they were filled up for determining the ceiling of fifty per cent reservation against total number of vacancies of that year.

82. *The Constitution (Eighty-second Amendment) Act, 2000*—The amendment provides that nothing in Article 335 shall prevent the State from making any provision in favour of the members of the Scheduled Castes and the Scheduled Tribes for relaxation in qualifying marks in any examination or lowering the standards of evaluation for reservation in matters of promotion to any class or classes of services or posts in connection with affairs of the Union or of a State.

83. *The Constitution (Eighty-third Amendment) Act, 2000*—The Act amended Article 243M of the Constitution to provide that no reservation in Panchayats need be made in favour of the Scheduled Castes in Arunachal Pradesh wholly inhabited by tribal population.

Appendices

GOVERNMENT OF INDIA

K.R. Narayanan — President

Krishan Kant — Vice-President

CABINET MINISTERS

(As on 2 November 2001)

Atal Bihari Vajpayee	Prime Minister and also in-charge of the Ministries/ Departments not specifically allocated to the charge of any Minister viz.: (i) Ministry of Personnel, Public Grievances & Pensions; (ii) Ministry of Planning, (iii) Department of Atomic Energy; and (iv) Department of Space
L.K. Advani	Minister of Home Affairs
Ananth Kumar	Minister of Urban Development & Poverty Alleviation
T.R. Baalu	Minister of Environment & Forests
Sukhdev Singh Dhindsa	Minister of Chemicals & Fertilizers
George Fernandes	Minister of Defence
Ved Prakash Goyal	Minister of Shipping
Syed Shahnawaz Hussain	Minister of Civil Aviation
Jagmohan	Minister of Tourism and Minister of Statistics and Programme Implementation
Arun Jaitley	Minister of Law, Justice & Company Affairs
Dr Satya Narayan Jatiya	Minister of Social Justice & Empowerment
Manohar Joshi	Minister of Heavy Industries & Public Enterprises
Dr Murli Manohar Joshi	Minister of Human Resource Development, Minister of Science & Technology and Minister of Ocean Development
Pramod Mahajan	Minister of Parliamentary Affairs, Minister of Information Technology and Minister of Communications
Murasoli Maran	Minister of Commerce & Industry
Kariya Munda	Minister of Agro and Rural Industries
M. Venkaiah Naidu	Minister of Rural Development

Appendices

Ram Naik	Minister of Petroleum and Natural Gas
Nitish Kumar	Minister of Railways
Jual Oram	Minister of Tribal Affairs
Ram Vilas Paswan	Minister of Coal and Mines
Suresh Prabhu	Minister of Power
Kashiram Rana	Minister of Textiles
Arjun Charan Sethi	Minister of Water Resources
Shanta Kumar	Minister of Consumer Affairs, Food & Public Distribution
Arun Shourie	Minister of Disinvestment and Minister of Development of North Eastern Region
Ajit Singh	Minister of Agriculture
Jaswant Singh	Minister of External Affairs
Yashwant Sinha	Minister of Finance
Smt Sushma Swaraj	Minister of Information & Broadcasting
Dr C.P. Thakur	Minister of Health & Family Welfare
Sushree Uma Bharti	Minister of Youth Affairs & Sports
Sharad Yadav	Minister of Labour

MINISTERS OF STATE (INDEPENDENT CHARGE)

Smt Maneka Gandhi	Minister of State (Independent charge) of the Ministry of Culture
Prof Chaman Lal Gupta	Minister of State (Independent Charge) of the Ministry of Food Processing Industries
M. Kannappan	Minister of State (Independent charge) of the Ministry of Non-conventional Energy Sources
Maj Gen (Retd) B.C. Khanduri	Minister of State (Independent charge) of the Ministry of Road Transport & Highways
Smt Vasundhara Raje	Minister of State (Independent charge) of the Ministry of Small Scale Industries, Minister of State in the Ministry of Personnel, Public Grievances & Pensions, Ministry of Planning, Department of Atomic Energy and Department of Space
Braj Kishore Tripathi	Minister of State (Independent charge) of the Ministry of Steel

MINISTERS OF STATE

Ramesh Bais	Minister of State in the Ministry of Information & Broadcasting
Ms Bijoya Chakravarty	Minister of State in the Ministry of Water Resources
Bandaru Dattatraya	Minister of State in the Ministry of Urban Development and Poverty Alleviation

Santosh Gangwar	Minister of State in the Ministry of Petroleum & Natural Gas and Minister of State in the Ministry of Parliamentary Affairs
Vijay Goel	Minister of State in the Prime Minister's Office
Dr Vallabh Bhai Ramjibhai Kathiria	Minister of State in the Ministry of Heavy Industries & Public Enterprises
Faggan Singh Kulaste	Minister of State in the Ministry of Tribal Affairs
Krishnamraju	Minister of State in the Ministry of Defence
V. Dhananjay Kumar	Minister of State in the Ministry of Textiles
Ms Sumitra Mahajan	Minister of State in the Ministry of Human Resource Development
Subhash Maharia	Minister of State in the Ministry of Rural Development
Ms Jayawanti Mehta	Minister of State in the Ministry of Power
Satya Brata Mookherjee	Minister of State in the Ministry of Chemicals & Fertilizers
Muni Lall	Minister of State in the Ministry of Labour
Shripad Yesso Naik	Minister of State in the Ministry of Shipping
Omar Abdullah	Minister of State in the Ministry of External Affairs
Harin Pathak	Minister of State in the Department of Defence Production and Supplies in the Ministry of Defence
Annasaheb M.K. Patil	Minister of State in the Ministry of Rural Development
Ashok Pradhan	Minister of State in the Ministry of Consumer Affairs, Food & Public Distribution
Ravi Shankar Prasad	Minister of State in the Ministry of Coal and Mines
P. Radhakrishnan	Minister of State in the Ministry of Youth Affairs & Sports
A. Raja	Minister of State in the Ministry of Health & Family Welfare
O. Rajagopal	Minister of State in the Ministry of Parliamentary Affairs and Minister of State in the Ministry of Railways
Dr Raman Singh	Minister of State in the Ministry of Commerce and Industry
Gingee N. Ramachandran	Minister of State in the Ministry of Finance
Chennamaneni Vidya Sagar Rao	Minister of State in the Ministry of Home Affairs
Bachi Singh Rawat	Minister of State in the Department of Science & Technology in the Ministry of Science & Technology
Rajiv Pratap Rudi	Minister of State in the Ministry of Commerce and Industry

Appendices

Tapan Sikdar	Minister of State in the Ministry of Communications
Digvijay Singh	Minister of State in the Ministry of Railways
V. Sreenivasa Prasad	Minister of State in the Ministry of Consumer Affairs, Food & Public Distribution
I.D. Swami	Minister of State in the Ministry of Home Affairs
Dr (Smt) Rita Verma	Minister of State in the Ministry of Human Resource Development
EV Alias Balasaheb Vikhe-Patil	Minister of State in the Ministry of Finance
Hukumdeo Narayan Yadav	Minister of State in the Ministry of Agriculture

MEMBERS OF PARLIAMENT

RAJYA SABHA

(As on 30 June 2001)

Chairman	Krishan Kant
Deputy Chairman	Dr (Smt) Najma Heptulla

Name	Party/Group
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STATES

ANDHRA PRADESH (18)

1.	N.R. Dasari	CPI
2.	C. Ramachandraiah	TDP
3.	Dr Dasari Narayana Rao	INC
4.	K.M. Saifullah	TDP
5.	Rama Muni Reddy Sirigireddy	TDP
6.	Rumandla Ramachandraiah	TDP
7.	Smt Jayaprada Nahata	TDP
8.	K.M. Khan	INC
9.	Dr Alladi P. Rajkumar	TDP
10.	Dr Y. Radhakrishna Murty	CPI(M)
11.	K. Kalavenkata Rao	TDP
12.	Yadlapati Venkat Rao	TDP
13.	P. Prabhakar Reddy	TDP
14.	Dr Y. Lakshmi Prasad	TDP
15.	Solipeta Ramachandra Reddy	TDP
16.	Dr D. Venkateshwar Rao	BJP
17.	K. Rama Mohana Rao	TDP
18.	Smt Vanga Geetha	TDP

ARUNACHAL PRADESH (1)

19.	Nabam Rebia	IND
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ASSAM (7)

20.	Karnendu Bhattacharjee	INC
21.	Indramoni Bora	BJP
22.	Prakanta Warisa	ASDC
23.	Drupad Borgohain	CPI
24.	Dr Manmohan Singh	INC
25.	Dr Arun Kumar Sarma	AGP
26.	Smt Basanti Sarma	INC

BIHAR (16)

27.	Smt Saroj Dubey	RJD
28.	Anil Kumar	RJD
29.	Smt Kum Kum Rai	RJD
30.	Prof Ram Deo Bhandary	RJD
31.	Gaya Singh	CPI
32.	Dr Faguni Ram	INC
33.	Mahendra Prasad ¹	RJD
34.	Ravi Shankar Prasad	BJP
35.	Dr Ramendra Kumar Yadav Ravi	RJD
36.	Nagendra Nath Ojha	CPI
37.	Prem Chand Gupta	RJD
38.	Shatrughan Sinha	BJP
39.	Rajiv Ranjan Singh 'Lalan'	SAMATA
40.	Vijay Singh Yadav	RJD
41.	Ranjan Prasad Yadav ²	RJD
42.	Kapil Sibal	INC

CHHATTISGARH (5)

43.	Lakkhiram Agarwal	BJP
44.	Jhumuk Lal Bhendia	INC
45.	Dilip Singh Judev	BJP
46.	Bhagatram Manhar	INC
47.	Surendra Kumar Singh	INC

GOA (1)

48.	Eduardo Faleiro	INC
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GUJARAT (11)

49.	Anantray Devshanker Dave	BJP
50.	Arun Jaitley	BJP
51.	Bangaru Laxman	BJP
52.	Raju Parmar	INC
53.	Ahmed Patel	INC

¹ Expelled from RJD w.e.f. 15 May 2001

² Expelled from RJD w.e.f. 2 May 2001

54.	Dr A.K. Patel	BJP
55.	Lalitbhai Mehta	BJP
56.	Smt Savita Sharda	BJP
57.	Gopalsinh G. Solanki	BJP
58.	Bachani Lekhraj	BJP
59.	Brahmakumar Bhatt	INC

HARYANA (5)

60.	Banarsi Das Gupta	INC
61.	Faqir Chand Mullana	INLD
62.	Rao Man Singh	INLD
63.	Swaraj Kaushal	HVP
64.	Lachhman Singh	INC

HIMACHAL PRADESH (3)

65.	Kripal Parmar	BJP
66.	Anil Sharma	HVC
67.	Smt Chandresh Kumari	INC

JAMMU & KASHMIR (4)

68.	Ghulam Nabi Azad	INC
69.	Mirza Abdul Rashid	J&KNC
70.	Sharief-Ud-Din Shariq	J&KNC
71.	Kushok Thiksey	J&KNC

JHARKHAND (6)

72.	Parmeshwar Kumar Agarwalla	BJP
73.	S.S. Ahluwalia	BJP
74.	R.K. Anand	JMM
75.	Maulana Obaidullah Khan Azmi	JD
76.	Ven'ble Dhammaviriyo ¹	RJD
77.	Shibu Soren	JMM

KARNATAKA (12)

78.	S.R. Bommai	JD
79.	K.B. Krishna Murthy	INC
80.	Smt Bimba Raikar	INC
81.	Oscar Fernandes	INC
82.	K. Rahman Khan	INC
83.	Ramakrishna Hegde	JD
84.	H.K. Javare Gowda	JD
85.	C.M. Ibrahim	JD
86.	M. Rajasekara Murthy	BJP

¹ Expelled from RJD w.e.f. 2 May 2001

87. K.C. Kondaiah INC
 88. Prof A. Lakshmisagar JD
 89. M. Venkaiah Naidu BJP

KERALA (9)

90. J. Chitharanjan CPI
 91. Korambayil Ahammed Haji ML
 92. V.V. Raghavan CPI
 93. M.J. Varkey Mattathil KC
 94. S. Ramachandran Pillai CPI(M)
 95. C.O. Poullose CPI(M)
 96. N.K. Premachandran RSP
 97. M.P. Abdussamad Samadani ML
 98. A. Vijaya Raghavan CPI(M)

MADHYA PRADESH (11)

99. Sikander Bakht BJP
 100. Hansraj Bhardwaj INC
 101. Abdul Gaiyur Qureshi INC
 102. Kailash Joshi BJP
 103. Balkavi Bairagi INC
 104. Vikram Verma BJP
 105. Suresh Pachouri INC
 106. Arjun Singh INC
 107. O. Rajagopal BJP
 108. P.K. Maheshwari INC
 109. Miss Mabel Rebello INC

MAHARASHTRA (19)

110. B.P. Apte BJP
 111. Suresh A. Keswani IND
 112. S.B. Chavan INC
 113. Vedprakash P. Goyal BJP
 114. Yusuf Sarwar Khan INC
 alias Dilip Kumar
 115. Dr (Smt) Najma Heptulla INC
 116. Mukesh R. Patel SS
 117. Ram Jethmalani IND
 118. Vijay J. Darda IND
 119. Suryabhan Patil Vahadane BJP
 120. Adhik Shirodkar SS
 121. R.S. Gavai RPI

122. Suresh Kalmadi	INC
123. Praful Patel	NCP
124. Pramod Mahajan	BJP
125. Satish Pradhan	SS
126. N.K.P. Salve	INC
127. Sanjay Nirupam	SS
128. Prithish Nandy	SS

MANIPUR (1)

129. W. Angou Singh	INC
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MEGHALAYA (1)

130. Onward L. Nongtdu	INC
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MIZORAM (1)

131. Hiphei	INC
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NAGALAND (1)

132. C Apok Jamir	INC
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ORISSA (10)

133. Man Mohan Samal	BJP
134. B.J. Panda	BJD
135. Maurice Kujur	INC
136. Birabhadra Singh	BJD
137. Dr M.N. Das	INC
138. Dilip Ray	BJD
139. Ramachandra Khuntia	INC
140. Ananta Sethi	INC
141. Miss Frida Topno	INC
142. Ranganath Misra	INC

PUNJAB (7)

143. Smt Gurcharan Kaur	BJP
144. Sardar Balwinder Singh Bhundar	SAD
145. Sardar Gurcharan Singh Tohra	SAD
146. Sukhdev Singh Libra	SAD
147. Sukhbir Singh	SAD
148. Lajpat Rai	BJP
149. Sukhdev Singh Dhindsa	SAD

RAJASTHAN (10)

150. Ramdas Agarwal	BJP
151. R.P. Goenka	INC
152. Krishna Kumar Birla	INC
153. Smt Jamana Devi Barupal	INC

154. Moolchand Meena INC
 155. Santosh Bagrodia INC
 156. Dr Mahesh Chandra Sharma BJP
 157. Aimaduddin Ahmad Khan (Durrui) INC
 158. Jaswant Singh BJP
 159. Dr L.M. Singhvi BJP

SIKKIM (1)

160. Palden Tsering Gyamtso SDF

TAMIL NADU (18)

161. S. Agniraj DMK
 162. M.A. Kadar DMK
 163. V.P. Duraisamy DMK
 164. P.N. Siva DMK
 165. P. Soundararajan AIADMK
 166. S. Niraikulathan AIADMK
 167. G.K. Moopnar¹ TMC (M)
 168. O.S. Manian AIADMK
 169. Smt Jayanthi Natarajan TMC (M)
 170. Prof M. Sankaralingam DMK
 171. R. Margabandu AIADMK
 172. Dr D. Masthan² AIADMK-II
 173. S. Sivasubramanian DMK
 174. S. Viduthalai Virumbi DMK
 175. N. Rajendran³ AIADMK-II
 176. Ka. Ra. Subbian DMK
 177. S. Peter Alphonse TMC (M)
 178. Vacant

TRIPURA (1)

179. Khagen Das CPI (M)

UTTARANCHAL (3)

180. Manohar Kant Dhyani BJP
 181. Sangh Priya Gautam BJP
 182. Smt Sushma Swaraj BJP

UTTAR PRADESH (31)

183. Ghanshyam Chandra Kharwar BSP
 184. T.N. Chaturvedi BJP
 185. Dr Akhilesh Das INC
 186. Munavvar Hasan SP

¹ Expired 30 August 2001

² Expelled from AIADMK-II w.e.f. 1 December 1997

³ Expelled from AIADMK-II w.e.f. 17 December 1997

187. R.N. Arya	BSP
188. Gandhi Azad	BSP
189. Kanshi Ram	BSP
190. Kalraj Mishra	BJP
191. Balbir K. Punj	BJP
192. Dara Singh Chauhan	SP
193. Rama Shanker Kaushik	SP
194. Ram Nath Kovind	BJP
195. Dr Swami Sakshi Ji Maharaj	SP
196. Mohd. Azam Khan	SP
197. Narendra Mohan	BJP
198. Janeshwar Misra	SP
199. Balwant Singh Ramoowalia	IND
200. Dina Nath Mishra	BJP
201. Dr Akhtar Hasan Rizvi	IND
202. Amar Singh	SP
203. Devi Prasad Singh	BJP
204. Arun Shourie	BJP
205. Rajnath Singh 'Surya'	BJP
206. B.P. Singhal	BJP
207. Rajeev Shukla	ABLTC
208. Shyam Lal	BJP
209. Prof R.B.S. Varma	BJP
210. Prof M.M. Agarwal	IND
211. Prof Ram Gopal Yadav	SP
212. Khan Chufran Zahidi	INC
213. D.P. Yadav	IND

WEST BENGAL (16)

214. Nilotpal Basu	CPI(M)
215. Debabrata Biswas	AIFB
216. Abani Roy	RSP
217. Dr Biplab Dasgupta	CPI(M)
218. Manoj Bhattacharya	RSP
219. Smt Sarla Maheshwari	CPI(M)
220. Dawa Lama	CPI(M)
221. Shankar Roy Chowdhury	IND
222. Dipankar Mukherjee	CPI(M)
223. Pranab Mukherjee	INC
224. Smt Chandra Kala Pandey	CPI(M)
225. Bratin Sengupta	CPI(M)
226. Jibon Roy	CPI(M)
227. Jayanta Bhattacharya	IND
228. Prof (Smt) Bharati Ray	CPI(M)
229. Vacant	

UNION TERRITORIES

DELHI (3)

230. Dr A.R. Kidwai	INC
231. Dr Karan Singh	INC
232. Smt Ambika Soni	INC

PONDICHERRY (1)

233. C.P. Thirunavakkarasu	DMK
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NOMINATED BY THE PRESIDENT (12)

234. Fali S. Nariman
235. Ms Lata Mangeshkar
236. Cho S. Ramaswamy
237. Smt Shabana Azmi
238. Dr (Ms) P. Selvie Das
239. Nana Deshmukh
240. Kartar Singh Duggal
241. Kuldeep Nayyar
242. Dr Raja Ramanna
243. Dr C. Narayana Reddy
244. Mrinal Sen
245. Chaudhary Harmohan Singh Yadav ¹

¹ Belongs to SP

LOK SABHA

(As on 30 September 2001)

Speaker : G.M.C. Balayogi

State/Constituency	Name of the Member	Party/Group
ANDHRA PRADESH (42)		
1 Adilabad	Dr Samudrala Venugopal Chary	TDP
2 Amalapuram (SC)	G.M.C. Balayogi	TDP
3 Anakapalli	Ganta Srinivasa Rao	TDP
4 Anantapur	Srinivasulu Kalava	TDP
5 Bapatla	Dr D. Ramanaidu	TDP
6 Bhadrachalam (ST)	Smt Dumpa Mary Vijayakumari	TDP
7 Bobbili	Botcha Satyanarayana	INC
8 Chittoor	Noothanakalva Ramakrishna Reddy	TDP
9 Cuddapah	Y.S. Vivekananda Reddy	INC
10 Eluru	Dr Bolla Bulli Ramaiah	TDP

11	Guntur	Yemparala Venkateswara Rao	TDP
12	Hanamkonda	Chada Suresh Reddy	TDP
13	Hindupur	B.K.Parthasarathi	TDP
14	Hyderabad	Sultan Salahuddin Owaisi	AIMEIM
15	Kakinada	Mudragada Padmanabham	TDP
16	Karimnagar	Chennamaneni Vidyasagar Rao	BJP
17	Khammam	Smt Renuka Chowdhury	INC
18	Kurnool	Kambalapadu E.Krishnamurthy	TDP
19	Machilipatnam	Ambati Brahmanaiah	TDP
20	Mahabubnagar	A.P. Jithender Reddy	BJP
21	Medak	A. Narendra	BJP
22	Miryalguda	S. Jaipal Reddy	INC
23	Nagarkurnool(SC)	Dr Manda Jagannath	TDP
24	Nalgonda	Gutha Sukender Reddy	TDP
25	Nandyal	Bhuma Nagi Reddy	TDP
26	Narasaropet	N. Janardhana Reddy	INC
27	Narsapur	Venkata Krishnam Raju Uppalapati	BJP
28	Nellore (SC)	Dr Vukkala Rajeswaramma	TDP
29	Nizamabad	Gaddam Ganga Reddy	TDP
30	Ongole	Balarama Krishna Murthy Karanam	TDP
31	Parvathipuram (ST)	Dr Dadichiluka Veera Gouri Sankara Rao	TDP
32	Peddapalli (SC)	Dr (Smt) C. Suguna Kumari	TDP
33	Rajahmundry	S.B.P.B.K. Satyanarayana Rao	BJP
34	Rajampet	Gunipati Ramaiah	TDP
35	Secunderabad	Bandaru Dattatreya	BJP
36	Siddipet (SC)	Malyala Rajaiah	TDP
37	Srikakulam	Kinjarapu Yerrannaidu	TDP
38	Tenali	Prof Ummareddy Venkateswarlu	TDP
39	Tirupathi(SC)	Dr N.Venkataswamy	BJP
40	Vijayawada	Gadde Ramamohan	TDP
41	Visakhapatnam	M.V.V.S. Murthy	TDP
42	Warangal	Bodakunti Venkateswarlu	TDP

ARUNACHAL PRADESH (2)

43	Arunachal East	Wangcha Rajkumar	INC
44	Arunachal West	Jarbom Gamlin	INC

ASSAM (14)

45	Autonomous District(ST)	Dr Jayanta Rongpi	CPI(ML) L
46	Barpeta	A.F. Golam Osmani	INC
47	Dhurbi	Abdul Hamid	INC
48	Dibrugarh	Paban Singh Ghatowar	INC

49	Guwahati	Smt Bijoy Chakravarty	BJP
50	Jorhat	Bijoy Krishna Handique	INC
51	Kaliabor	Vacant ¹	
52	Karimganj (SC)	Nepal Chandra Das	INC
53	Kokrajhar (ST)	Sansuma Khunggur Bwiswmuthiary	IND
54	Lakhimpur	Smt Ranee Narah	INC
55	Mangaldoi	Madhab Rajbangshi	INC
56	Nowgong	Rajen Gohain	BJP
57	Silchar	Sontosh Mohan Dev	INC
58	Tezpur	Moni Kumar Subba	INC

BIHAR (40)

59	Araria (SC)	Sukhdeo Paswan	RJD (Democratic)
60	Arrah	Fam Prasad Singh	RJD
61	Aurangabad	Smt Shyama Singh	INC
62	Bahaga (SC)	Mahendra Baitha	JDS
63	Balia	Ram Jiwan Singh	JDU
64	Banka	Digvijay Singh	JDS
65	Barh	Nitish Kumar	JDS
66	Begusarai	Rajo Singh	INC
67	Bettiah	Dr Madan Prasad Jaiswal	BJP
68	Bhagalpur	Subodh Ray	CPI(M)
69	Bikramganj	Smt Kanti Singh	RJD
70	Buxar	Lalmuni Chaubey	BJP
71	Chapra	Rajiv Pratap Rudy	BJP
72	Darbhangha	Kirti Jha Azad	BJP
73	Gaya (SC)	Ramji Manjhi	BJP
74	Gopalganj	Raghunath Jha	JDS
75	Hajipur (SC)	Ram Vilas Paswan	LJSP
76	Jahanabad	Dr Arun Kumar	JDS
77	Jhanjharpur	Devendra Prasad Yadav	JDU
78	Katihar	Nikhil Kumar Choudhary	BJP
79	Khagaria	Smt Renu Kumari Singh	JDS
80	Kishanganj	Sayed Shahnawaz Hussain	BJP
81	Madhepura	Sharad Yadav	JDU
82	Madhubani	Hukumdeo Narayan Yadav	BJP
83	Maharajganj	Prabhunath Singh	JDS
84	Monghyr	Brahmanand Mandal	JDS
85	Motihari	Radha Mohan Singh	BJP

¹ Since 25.9.2001

Appendices

86	Muzaffarpur	Capt Jainarain Prasad Nishad	JDU
87	Nalanda	George Fernandes	JDS
88	Nawada (SC)	Dr Sanjay Paswan	BJP
89	Patna	Dr C.P. Thakur	BJP
90	Purnea	Rajesh Ranjan	IND
91	Rosera (SC)	Ramchandra Paswan	LJSP
92	Saharsa	Dinesh Chandra Yadav	JDU
93	Samastipur	Manjay Lal	JDS
94	Sasaram (SC)	Muni Lall	BJP
95	Sheohar	Md Anwarul Haque	RJD (Democratic)
96	Sitamarhi	Nawal Kishore Rai	JDU
97	Siwan	Mohammed Shahabuddin	RJD
98	Vaishali	Dr Raghuvansh Prasad Singh	RJD

CHHATTISGARH (11)

99	Bastar (ST)	Baliram Kashyap	BJP
100	Bilaspur (SC)	Punnulal Mohale	BJP
101	Durg	Tara Chand Sahu	BJP
102	Janjgir	Dr Charan Das Mahant	INC
103	Kanker (ST)	Sohan Potai	BJP
104	Mahasamund	Shyama Charan Shukla	INC
105	Raigarh (ST)	Vishnudeo Sai	BJP
106	Raipur	Ramesh Bais	BJP
107	Rajnandgaon	Dr Raman Singh	BJP
108	Sarangarh (SC)	P.R. Khute	BJP
109	Surguja(ST)	Khel Sai Singh	INC

DELHI (7)

110	Chandni Chowk	Vijay Goel	BJP
111	East Delhi	Lal Bihari Tiwari	BJP
112	Karol Bagh (SC)	Dr Anita Arya	BJP
113	New Delhi	Jag Mohan	BJP
114	Outer Delhi	Sahib Singh Verma	BJP
115	Delhi Sadar	Madan Lal Khurana	BJP
116	South Delhi	Prof Vijay Kumar Malhotra	BJP

GOA (2)

117	Mormugao	Ramakant Soiru Angle	BJP
118	Panaji	Shripad Yasso Naik	BJP

GUJARAT (26)

119	Ahmedabad	Harin Pathak	BJP
120	Amreli	Dileep Sanghani	BJP
121	Anand	Dipakbhai Chimanbhai Patel	BJP
122	Banaskantha	Haribhai Chaudhari	BJP
123	Baroda	Smt Jayaben B. Thakkar	BJP
124	Bhavnagar	Rajendrasinh G. Rana	BJP
125	Broach	Mansukhbhai D. Vasava	BJP
126	Bulsar (ST)	Manibhai Ramjibhai Chaudhary	BJP
127	Chhota Udaipur (ST)	Ramsinh Rathawa	BJP
128	Dhandhuka (SC)	Ratilal Kalidas Varma	BJP
129	Dohad (ST)	Babubhai Khimbbhai Kataria	BJP
130	Gandhinagar	Lal Krishna Advani	BJP
131	Godhra	Bhupendrasinh Solanki	BJP
132	Jamnagar	Chandresh Patel Kordia	BJP
133	Junagadh	Smt Bhavnaben Chikhaliya	BJP
134	Kaira	Dinsha Patel	INC
135	Kapadvanj	Shankarsinh Laxmansinh Vaghela	INC
136	Kutch	Pushpadan Sambhudan Gadhvi	BJP
137	Mandvi (ST)	Mansinh Patel	BJP
138	Mehsana	Atmaram Maganbhai Patel	INC
139	Patan (SC)	Pravinchandra Somabhai Rashtrapal	INC
140	Porbandar	Gordhanbhai Jadavbhai Javia	BJP
141	Rajkot	Dr Vallabhbhai Kathiria	BJP
142	Sabarkantha	Madhusudan Devram Mistry	INC
143	Surat	Kashi Ram Rana	BJP
144	Surendranagar	Savshibhai Kanjibhai Makwana	INC

HARYANA (10)

145	Ambala (SC)	Rattan Lal Kataria	BJP
146	Bhiwani	Ajay Singh Chautala	INLD
147	Faridabad	Ram Chander Bainsa	BJP
148	Hissar	Surender Singh Barwala	INLD
149	Karnal	I.D. Swami	BJP
150	Kurukshetra	Prof (Smt) Kailasho Devi	INLD

151	Mahendragarh	Dr (Smt) Sudha Yadav	BJP
152	Rohtak	Capt Inder Singh	INLD
153	Sirsa (SC)	Dr Sushil Kumar Indora	INLD
154	Sonepat	Kishan Singh Sangwan	BJP

HIMACHAL PRADESH (4)

155	Hamirpur	Suresh Chandel	BJP
156	Kangra	Shanta Kumar	BJP
157	Mandi	Maheshwar Singh	BJP
158	Shimla (SC)	Dr (Col) Dhani Ram Shandil	HVC

JAMMU & KASHMIR (6)

159	Anantnag	Ali Mohd Naik	J&KNC
160	Baramullah	Abdul Rasheed Shaheen	J&KNC
161	Jammu	Vaidya Vishnu Datt	BJP
162	Ladakh	Hassan Khan	J&KNC
163	Srinagar	Omar Abdullah	J&KNC
164	Udhampur	Prof Chaman Lal Gupta	BJP

JHARKHAND (14)

165	Chatra	Nagmani	RJD (Democratic)
166	Dhanbad	Prof (Smt) Rita Verma	BJP
167	Dumka (ST)	Vacant ¹	
168	Giridih	Ravindra Kumar Pandey	BJP
169	Godda	Jagdambi Prasad Yadav	BJP
170	Hazaribagh	Yashwant Sinha	BJP
171	Jamshedpur	Smt Abha Mahato	BJP
172	Khunti (ST)	Kariya Munda	BJP
173	Kodarma	Tilakdhari Prasad Singh	INC
174	Lohardaga (ST)	Prof Dukha Bhagat	BJP
175	Palamau (SC)	Braj Mohan Ram	BJP
176	Rajmahal (ST)	Thomas Hansda	INC
177	Ranchi	Ram Tahal Chaudhary	BJP
178	Singhbhum(ST)	Laxman Giluwa	BJP

KARNATAKA (28)

179	Bagalkot	R.S. Patil	INC
180	Bangalore North	C.K. Jaffar Sharief	INC
181	Bangalore South	Ananth Kumar	BJP
182	Belgaum	Amarsinh Vasantrao Patil	INC

¹ Since 8 March 2001

183	Bellary	K. Basavana Goud	INC
184	Bidar (SC)	Ramachandra Veerappa	BJP
185	Bijapur	Basangouda Ramangouda Patil	BJP
186	Chamarajanagar (SC)	V. Sreenivasa Prasad	JDS
187	Chikmagalur	D.C. Sreekantappa	BJP
188	Chikballapur	R.L. Jalappa	INC
189	Chikkodi (SC)	Ramesh Chandappa Jigajinagi	LJSP
190	Chitradurga	K. Sashi Kumar	JDU
191	Davangere	G. Mallikarjunappa	BJP
192	Dharwad North	Vijay Sankeshwar	BJP
193	Dharwad South	Prof I.G. Sanadi	INC
194	Gulbarga	Iqbal Ahmed Saradgi	INC
195	Hassan	G. Puttaswamy Gowda	INC
196	Kanakapura	M.V.Chandrashekhara Murthy	INC
197	Kanara	Smt Margaret Alva	INC
198	Kolar (SC)	K.H. Muniyappa	INC
199	Koppal	H.G Ramulu	INC
200	Mandya	Ambareesh	INC
201	Mangalore	V. Dhananjaya Kumar	BJP
202	Mysore	Srikantadatta Narasimharaja Wadiyar	INC
203	Raichur	A. Venkatesh Naik	INC
204	Shimoga	S. Bangarappa	INC
205	Tumkur	G.S. Basavaraj	INC
206	Udupi	Vinaya Kumar Sorake	INC

KERALA (20)

207	Adoor (SC)	Suresh Kodikunnil	INC
208	Alleppey	V.M. Sudheeran	INC
209	Badagara	Prof (Smt) A.K. Premajam	CPI(M)
210	Calicut	K. Muraleedharan	INC
211	Cannanore	A.P. Abdullakutty	CPI(M)
212	Chirayinkil	Varkala Radhakrishnan	CPI(M)
213	Ernakulam	Adv George Eden	INC
214	Idukki	K.Francis George	KC
215	Kasaragod	T. Govindan	CPI(M)
216	Quilon	P. Rajendran	CPI(M)
217	Kottayam	Suresh Kurup	CPI(M)
218	Manjeri	E. Ahamed	ML
219	Mavelikara	Ramesh Chennithala	INC
220	Mukundapuram	K. Karunakaran	INC

221	Muvattupuzha	Adv P.C. Thomas	IFDP
222	Ottapalam (SC)	S. Ajaya Kumar	CPI(M)
223	Palghat	N.N. Krishnadas	CPI(M)
224	Ponnani	Gulam Mehmood Banatwalla	ML
225	Thiruvananthapuram	V.S. Sivakumar	INC
226	Trichur	A.C. Jose	INC

MADHYA PRADESH (29)

227	Balaghat	Prahlad Singh Patel	BJP
228	Betul	Vijay Kumar Khandelwal	BJP
229	Bhind	Dr Ram Lakhan Singh	BJP
230	Bhopal	Sadhvi Uma Bharti	BJP
231	Chindwara	Kamal Nath	INC
232	Damoh	Dr Ramkrishna Kusmaria	BJP
233	Dhar (ST)	Gajendra Singh Rajukhedi	INC
234	Guna	Vacant	
235	Gwalior	Jaibhan Singh Pavaiya	BJP
236	Hoshangabad	Sundarlal Patwa	BJP
237	Indore	Smt Sumitra Mahajan	BJP
238	Jabalpur	Smt Jaishree Banerjee	BJP
239	Jhabua (ST)	Kanti Lal Bhuriya	INC
240	Khajuraho	Satyavrat Chaturvedi	INC
241	Khandwa	Nand Kumar Singh Chauhan	BJP
242	Khargone	Tarachand Shivaji Patel	INC
243	Mandla (ST)	Faggan Singh Kulaste	BJP
244	Mandsaur	Dr Laxminarayan Pandey	BJP
245	Morena (SC)	Ashok Chhaviram Argal	BJP
246	Rajgarh	Laxman Singh	INC
247	Rewa	Sunder Lal Tiwari	INC
248	Sagar (SC)	Virendra Kumar	BJP
249	Satna	Ramanand Singh	BJP
250	Seoni	Ram Naresh Tripathi	BJP
251	Shahdol (ST)	Dalpat Singh Paraste	BJP
252	Shajapur (SC)	Thawar Chand Gehlot	BJP
253	Sidhi (ST)	Chandra Pratap Singh	BJP
254	Ujjain (SC)	Dr Satyanarayan Jatiya	BJP
255	Vidisha	Shivraj Singh Chouhan	BJP

MAHARASHTRA (48)

256	Ahmednagar	Dilipkumar Mansukhlal Gandhi	BJP
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257	Akola	Prakash Yashawant Ambedkar	BBM
258	Amravati	Anantrao Mahadeoappa Gudhe	SS
259	Aurangabad	Chandrakant Khaire	SS
260	Baramati	Sharad Pawar	NCP
261	Beed	Jaisingrao Gaikwad Patil	BJP
262	Bhandara	Chunnilal Bhau Thakur	BJP
263	Buldhana (SC)	Anandrao Vithoba Adsul	SS
264	Chandrapur	Nareshkumar Chunnalal Puglia	INC
265	Chimur	Prof. Namdeo Harbaji Diwathe	BJP
266	Dahanu (ST)	Adv Chintaman Wanaga	BJP
267	Dhule (ST)	Ramdas Rupla Gavit	BJP
268	Erandol	Annasaheb M. K. Patil	BJP
269	Hingoli	Shivaji Gyanba Rao Mane	SS
270	Ichakaranji	Smt Nivedita Sambhaji Rao Mane	NCP
271	Jalgaon	Y.G. Mahajan	BJP
272	Jalna	Raosaheb Dadarao Patil Danve	BJP
273	Karad	Shriniwas Dadasaheb Patil (Marulkar)	NCP
274	Khed	Ashok Namdeorao Mohol	NCP
275	Kolaba	Ramsheth Thakur	PWP
276	Kolhapur	Sadashivrao Dadoba Mandlik	NCP
277	Kopergaon	Balasaheb Vikhe Patil	SS
278	Latur	Shivraj V. Patil	INC
279	Malegaon (ST)	Haribhau Shankar Mahale	JDS
280	Mumbai North	Ram Naik	BJP
281	Mumbai North Central	Manohar Gajanan Joshi	SS
282	Mumbai North West	Sunil Dutt	INC
283	Mumbai North-East	Kirit Somaiya	BJP
284	Mumbai South	Smt Jayawanti Mehta	BJP
285	Mumbai South Central	Mohan Vishnu Rawale	SS
286	Nagpur	Vilas Muttemwar	INC
287	Nanded	Bhaskarrao Patil	INC
288	Nandurbar (ST)	Manikrao H. Gavit	INC
289	Nashik	Adv Uttam Rao Dhikle	SS
290	Osmanabad (SC)	Shivaji Vithalrao Kamble	SS
291	Pandharpur (SC)	Ramdas Bandu Athawale	IND
292	Parbhani	Adv Suresh Ramrao Jadhav (Patil)	SS
293	Pune	Pradeep Rawat	BJP

294	Rajapur	Suresh Prabhakar Prabhu (Patil)	SS
295	Ramtek	Subodh Mohite	SS
296	Ratnagiri	Anant Gangaram Geete	SS
297	Sangli	Prakash Vasantrao Patil	INC
298	Satara	Laxmanrao Patil	NCP
299	Solapur	Sushil Kumar Shinde	INC
300	Thane	Prakash Paranjape	SS
301	Wardha	Smt Prabha Rau	INC
302	Washim	Km Bhavana Pundlikrao Gawali	SS
303	Yavatmal	Uttamrao Deorao Patil	INC

MANIPUR (2)

304	Inner Manipur	Th. Chaoba Singh	MSCP
305	Outer Manipur (ST)	Holkhomang Haokip	NCP

MEGHALAYA (2)

306	Shillong	Paty Ripple Kyndiah	INC
307	Tura	Purno Agitok Sangma	NCP

MIZORAM (1)

308	Mizoram (ST)	Vanlalawma	IND
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NAGALAND (1)

309	Nagaland	K. Asungba Sangtam	INC
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ORISSA (21)

310	Aska	Smt Kumudini Patnaik	BJD
311	Balasore	M.A. Kharabela Swain	BJP
312	Berhampur	Anadicharan Sahu	BJP
313	Bhadrak (SC)	Arjun Sethi	BJD
314	Bhubaneswar	Dr Prasanna Kumar Patasani	BJD
315	Bolangir	Smt Sangeeta Kumari Singh Deo	BJP
316	Cuttack	Bhartuhari Mahtab	BJD
317	Deogarh	Dr Debendra Pradhan	BJP
318	Dhenkanal	Kamakhyia Prasad Singhdeo	INC
319	Jagatsinghpur	Trilochan Kanungo	BJD
320	Jajpur (SC)	Jagannath Mallick	BJD
321	Kalahandi	Bikram Keshari Deo	BJP
322	Kendrapara	Prabhat Kumar Samantaray	BJD

323	Keonjhar (ST)	Ananta Nayak	BJP
324	Koraput (ST)	Smt Hema Gamang	INC
325	Mayurbhanj (ST)	Salkhan Murmu	BJP
326	Nowrangpur (ST)	Parsuram Majhi	BJP
327	Phulbani (SC)	Padmanava Behera	BJD
328	Puri	Braja Kishore Tripathi	BJD
329	Sambalpur	Prasanna Acharya	BJD
330	Sundargarh (ST)	Jual Oram	BJP

PUNJAB (13)

331	Amritsar	Raghubandan Lal Bhatia	INC
332	Bathinda (SC)	Bhan Singh Bhaura	CPI
333	Faridkot	Jagmeet Singh Brar	INC
334	Ferozepur	Zora Singh Mann	SAD
335	Gurdaspur	Vinod Khanna	BJP
336	Hoshiarpur	Charanjit Singh Channi	INC
337	Jullundur	Balbir Singh	INC
338	Ludhiana	Gurcharan Singh Galib	INC
339	Patiala	Smt Preneet Kaur	INC
340	Phillaur (SC)	Smt Santosh Chowdhary	INC
341	Ropar (SC)	Shamsher Singh Dullo	INC
342	Sangrur	Simranjit Singh Mann	SAD(M)
343	Tarn Taran	Tarlochan Singh Tur	SAD

RAJASTHAN (25)

344	Ajmer	Prof Rasa Singh Rawat	BJP
345	Alwar	Dr Jaswant Singh Yadav	BJP
346	Banswara (ST)	Tarachand Bhagora	INC
347	Barmer	Col Sona Ram Choudhary	INC
348	Bayana (SC)	Bahadur Singh Koli	BJP
349	Bharatpur	Vishvendra Singh	BJP
350	Bhilwara	Vijayendra Pal Singh Badnore	BJP
351	Bikaner	Rameshwar Lal Dudi	INC
352	Churu	Ram Singh Kaswan	BJP
353	Chittorgarh	Srichand Kriplani	BJP
354	Dausa	Smt Rama Pilot	INC
355	Ganganagar (SC)	Nihal Chand Chauhan	BJP
356	Jaipur	Girdhari Lal Bhargava	BJP
357	Jalore (SC)	Buta Singh	INC
358	Jhalawar	Smt Vasundhara Raje	BJP
359	Jhunjhunu	Sis Ram Ola	INC

360	Jodhpur	Jaswant Singh Bishnoi	BJP
361	Kota	Raghuvir Singh Kaushal	BJP
362	Nagaur	Ramraghunath Chaudhary	INC
363	Pali	Pusp Jain	BJP
364	Salumber (ST)	Bheru Lal Meena	INC
365	Sawai Madhopur (ST)	Smt Jas Kaur Meena	BJP
366	Sikar	Subhash Maharia	BJP
367	Tonk (SC)	Kailash Meghwal	BJP
368	Udaipur	Dr Girija Vyas	INC

SIKKIM (1)

369	Sikkim	Bhim Prasad Dahal	SDF
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TAMIL NADU (39)

370	Arakkonam	Dr S. Jagathrakshakan	DMK
371	Chengalpattu	A.K. Moorthy	PMK
372	Chennai Central	Murasoli Maran	DMK
373	Chennai North	C. Kuppusami	DMK
374	Chennai South	T.R. Baalu	DMK
375	Chidambaram (SC)	E. Ponnuswamy	PMK
376	Coimbatore	C.P. Radhakrishnan	BJP
377	Cuddalore	Adhi Sankar	DMK
378	Dharmapuri	P.D. Elangovan	PMK
379	Dindigul	C. Sreenivaasan	AIADMK
380	Gobichettipalayam	K.K. Kaliappan	AIADMK
381	Karur	M. Chinnasamy	AIADMK
382	Krisnagiri	V. Vetriselvan	DMK
383	Madurai	Mohan Ponnuswamy	CPI(M)
384	Mayiladuturai	Mani Shankar Aiyar	INC
385	Nagapattinam (SC)	A.K.S. Vijayan	DMK
386	Nagercoil	Pon Radhakrishnan	BJP
387	Nilgiris	M. Master Mathan	BJP
388	Palani	P. G. Kumarasamy	AIADMK
389	Perambalur (SC)	A. Raja	DMK
390	Periyakulam	T.T.V. Dhinakaran	AIADMK
391	Pollachi (SC)	Dr C. Krishnan	MDMK
392	Pudukkottai	Thirunavukarasu	MGRADMK
393	Ramanthapuram	K. Malaisamy	AIADMK
394	Rasipuram(SC)	Dr (Smt) V. Saroja	AIADMK
395	Salem	T.M. Selvaganapathi	AIADMK
396	Sivaganga	Sudarsana E.M. Natchiappan	INC
397	Sivakasi	Vaiko	MDMK
398	Sriperumbudur (SC)	A. Krishnaswamy	DMK

399	Tenkasi (SC)	S. Murugesan	AIADMK
400	Thanjavur	S.S. Palanimanickam	DMK
401	Tindivanam	Gingee N. Ramachandran	MDMK
402	Tiruchendur	Dr A.D.K. Jeyaseelan	DMK
403	Tiruchengode	M. Kannappan	MDMK
404	Tiruchirappalli	Dalit Ezhilmalai	AIADMK
405	Tirunelveli	P.H. Pandian	AIADMK
406	Tiruppattur	D. Venugopal	DMK
407	Vandavasi	M. Durai	PMK
408	Vellore	N.T. Shanmugam	PMK

TRIPURA (2)

409	Tripura East (ST)	Baju Ban Riyan	CPI(M)
410	Tripura West	Vacant	

UTTARANCHAL (5)

411	Almora	Bachi Singh Rawat	BJP
412	Garhwal	Maj.Gen.(Rtd.) Bhuwan Chandra Khanduri	BJP
413	Hardwar (SC)	Harpal Singh Sathi	BJP
414	Nainital	Narayan Datt Tiwari	INC
415	Tehri Garhwal	Maharaja Manabendra Shah	BJP

UTTAR PRADESH (80)

416	Agra	Raj Babbar	SJP
417	Azamgarh	Ramakant Yadav	SJP
418	Akbarpur (SC)	Km Mayawati	BSP
419	Aligarh	Smt Sheela Gautam	BJP
420	Allahabad	Dr Murli Manohar Joshi	BJP
421	Amethi	Smt Sonia Gandhi	INC
422	Amroha	Rashid Alvi	BSP
423	Aonla	Kunwar Sarv Raj Singh	SJP
424	Bagpat	Ajit Singh	RLD
425	Bahraich	Padam Sen Chaudhary	BJP
426	Ballia	Chandra Shekhar	SJP(R)
427	Balrampur	Rizwan Zaheer Khan	SJP
428	Banda	Ram Sajeewan	BSP
429	Bansgaon (SC)	Raj Narain Passi	BJP
430	Barabanki (SC)	Ram Sagar	SJP
431	Bareilly	Santosh Kumar Gangwar	BJP
432	Basti (SC)	Sriram Chauhan	BJP
433	Bijnor (SC)	Sheeshram Singh Ravi	BJP

434	Bilhaur	Shyam Bihari Misra	BJP
435	Budaun	Saleem Iqbal Sherwani	SJP
436	Bulandshahr	Chhatra Pal Singh	BJP
437	Chail (SC)	Suresh Pasi	BSP
438	Chandauli	Jawahar Lal Jaiswal	SJP
439	Deoria	Prakash Mani Tripathi	BJP
440	Domariaganj	Ram Pal Singh	BJP
441	Etah	Dr Kr Devendra Singh Yadav	SJP
442	Etawah	Raghuraj Singh Shakya	SJP
443	Faizabad	Vinay Katiyar	BJP
444	Farrukhabad	Chandra Bhushan Singh	SJP
445	Fatehpur	Dr Ashok Kumar Patel	BJP
446	Firozabad (SC)	Ramji Lal Suman	SJP
447	Ghatampur (SC)	Pyare Lal Sankhwar	BSP
448	Ghazipur	Manoj Sinha	BJP
449	Ghosi	Bal Krishna Chauhan	BSP
450	Gonda	Brij Bhushan Sharan Singh	BJP
451	Gorakhpur	Aditya Nath	BJP
452	Hamirpur	Ashok Kumar Singh Chandel	BSP
453	Hapur	Dr Ramesh Chand Tomar	BJP
454	Hardoi (SC)	Jai Prakash	ABLTC
455	Hathras (SC)	Kishan Lal Diler	BJP
456	Jalaun (SC)	Brajlal Khabri	BSP
457	Jalesar	Prof S.P. Singh Baghel	SJP
458	Jaunpur	Swami Chinmayanand	BJP
459	Jhansi	Sujan Singh Bundela	INC
460	Kairana	Amir Alam Khan	RLD
461	Kaiserganj	Beni Prasad Verma	SJP
462	Kannauj	Akhilesh Yadav	SJP
463	Kanpur	Capt Shriprakash Jaiswal	INC
464	Khalilabad	Bhal Chandra Yadav	SJP
465	Kheri	Ravi Prakash Verma	SJP
466	Khurja (SC)	Ashok Kumar Pradhan	BJP
467	Lalganj (SC)	Dr Bali Ram	BSP
468	Lucknow	Atal Bihari Vajpayee	BJP
469	Machhlishahr	Chandra Nath Singh	SJP
470	Maharajganj	Kunwar Akhilesh Singh	SJP
471	Mainpuri	Balram Singh Yadav	SJP
472	Mathura	Ch. Tejveer Singh	BJP
473	Meerut	Avtar Singh Bhadana	INC

474	Mirzapur	Vacant	
475	Misrikh (SC)	Smt Sushila Saroj	SJP
476	Mohanlalganj (SC)	Smt Reena Choudhary	SJP
477	Moradabad	Chandra Vijay Singh	ABLTC
478	Muzaffarnagar	S. Saiduzzaman	INC
479	Padrauna	Ram Nagina Mishra	BJP
480	Phulpur	Dharmraj Singh Patel	SJP
481	Pilibhit	Smt Maneka Gandhi	IND
482	Pratapgarh	Rajkumari Ratna Singh	INC
483	Raebareli	Capt Satish Sharma	INC
484	Rampur	Begum Noor Bano	INC
485	Robertsganj (SC)	Ram Shakal	BJP
486	Saharanpur	Mansoor Ali Khan	BSP
487	Saidpur (SC)	Tufani Saroj	SJP
488	Salempur	Babban Rajbhar	BSP
489	Sambhal	Mulayam Singh Yadav	SJP
490	Shahabad	Daud Ahmad	BSP
491	Shahjahanpur	Ram Murti Singh Verma	SJP
492	Sitapur	Rajesh Verma	BSP
493	Sultanpur	Jai Bhadra Singh	BSP
494	Unnao	Deepak Kumar	SJP
495	Varanasi	Shankar Prasad Jaiswal	BJP

WEST BENGAL (42)

496	Alipurduars (ST)	Joachim Baxla	RSP
497	Arambagh	Anil Basu	CPI(M)
498	Asansol	Bikas Chowdhury	CPI(M)
499	Balurghat (SC)	Ranen Barman	RSP
500	Bankura	Basudeb Acharia	CPI(M)
501	Barasat	Dr Ranjit Kumar Panja	AITC
502	Barrackpore	Tarit Baran Topdar	CPI(M)
503	Basirhat	Ajay Chakraborty	CPI
504	Berhampore	Adhir Ranjan Chowdhury	INC
505	Birbhum (SC)	Dr Ram Chandra Dome	CPI(M)
506	Bolpur	Somnath Chatterjee	CPI(M)
507	Burdwan	Nikhilananda Sar	CPI(M)
508	Calcutta North East	Ajit Kumar Panja	AITC

Appendices

509	Calcutta North West	Sudip Bandyopadhyay	AITC
510	Calcutta South	Kum Mamata Banerjee	AITC
511	Contai	Dr Nitish Sengupta	AITC
512	Cooch Behar (SC)	Amar Roy Pradhan	AIFB
513	Darjeeling	S.P. Lepcha	CPI(M)
514	Diamond Harbour	Samik Lahiri	CPI(M)
515	Dum Dum	Tapan Sikdar	BJP
516	Durgapur (SC)	Sunil Khan	CPI(M)
517	Hooghly	Rupchand Pal	CPI(M)
518	Howrah	Swadesh Chakraborty	CPI(M)
519	Jadavpur	Prof (Smt) Krishna Bose	AITC
520	Jalpaiguri	Smt Minati Sen	CPI(M)
521	Jangipur	Abul Hasnat Khan	CPI(M)
522	Jhargram (ST)	Rupchand Murmu	CPI(M)
523	Joynagar (SC)	Sanat Kumar Mandal	RSP
524	Katwa	Mahaboob Zahedi	CPI(M)
525	Krishnagar	Satyabrata Mookherjee	BJP
526	Malda	A.B.A. Ghani Khan Choudhury	INC
527	Mathurapur (SC)	Prof Radhika Ranjan Pramanik	CPI(M)
528	Midnapore	Probodh Panda	CPI
529	Murshidabad	Moinul Hassan Ahamed	CPI(M)
530	Nabadwip (SC)	Ananda Mohan Biswas	AITC
531	Panskura	Dr Bikram Sarkar	AITC
532	Purulia	Bir Sing Mahato	AIFB
533	Raiganj	Priya Ranjan Dasmunshi	INC
534	Serampore	Akbor Ali Khandoker	AITC
535	Tamluk	Lakshman Chandra Seth	CPI(M)
536	Uluberia	Hannan Mollah	CPI(M)
537	Vishnupur (SC)	Smt Sandhya Bauri	CPI(M)

ANDAMAN & NICOBAR ISLANDS (1)

538	Andaman & Nicobar Islands	Bishnu Pada Ray	BJP
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CHANDIGARH (1)

539	Chandigarh	Pawan Kumar Bansal	INC
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DADRA & NAGAR HAVELI (1)

540	Dadra & Nagar Haveli	Mohanbhai Sanjibhai Delkar	IND
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DAMAN AND DIU (1)

541	Daman & Diu	Dahyabhai Vallabhbhai Patel	INC
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LAKSHADWEEP (1)

542	Lakshadweep (SW)	P.M. Sayeed	INC
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PONDICHERRY (1)

543	Pondicherry	M.O.H. Farook	INC
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ANGLO-INDIANS (2)

544	Denzil B. Atkinson	Nominated	BJP
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545	Dr (Smt) Beatrix D'Souza	Nominated	JDS
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Abbreviations used for Parties: Bharatiya Janta Party (BJP); Indian National Congress (INC); Communist Party of India (Marxist) CPI(M); Communist Party of India (CPI); Communist Party of India (M-L) Liberation (CPI(ML)L); Samajwadi Party (SJP); All India Anna Dravida Munnetra Kazhagam (AIADMK); Rashtriya Janata Dal (RJD); Rashtriya Janta Dal Democratic (RJD)(D); Telugu Desam Party (TDP); Biju Janata Dal (BJD); Shiromani Akali Dal (SAD); All India Trinamool Congress (AITC); Janata Dal United (JDU); Janata Dal Samata (JDS) Dravida Munnetra Kazhagam (DMK); Shiv Sena (SS); Bahujan Samaj Party (BSP); Revolutionary Socialist Party (RSP); Pattali Makkal Katchi (PMK); Marumalarchi Dravida Munnetra Kazhagam (MDMK); Tamil Manila Congress (TMC); All India Forward Block (AIFB); Muslim League (ML); Jammu & Kashmir National Conference (J&KNC); Kerala Congress (M) (KCM); Samajwadi Janata Party (Rashtriya) (SJPR); Sikkim Democratic Front (SDF); Peasants and Workers Party (PWP); All India Majlis-e-Ittehadul Muslimeen (AIMEIM); Manipur State Congress Party (MSCP); Indian National Lok Dal (INLD); Himachal Vikas Congress (HVC) ; Shiromani Akali Dal Maan (SAD(M)); Janta Dal Secular (JDS); Nationalist Congress Party (NCP); Akhil Bhartiya Lok Tantrik Congress (ABLTC); Bharipa Bahujan Mahasangh (BBM); Rashtriya Lok Dal (RLD); MGR Anna Dravida Munnetra Kazhagam (MGRADMK); Lok Jan Shakti Party (LJSP), Independents (IND).

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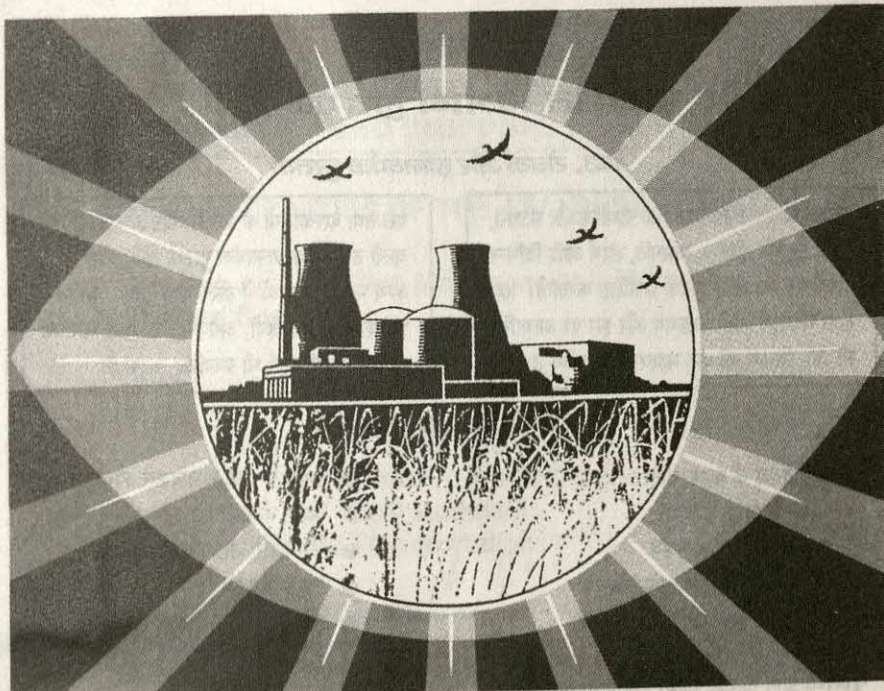
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पढ़िए :

प्रकाशन विभाग द्वारा प्रकाशित

श्रेष्ठ, रोचक और ज्ञानवर्धक पुस्तकें

प्रकाशन विभाग राष्ट्रीय नेताओं की जीवनियाँ और इतिहास, कला, संस्कृति, विज्ञान, वनस्पति, संदर्भ आदि विभिन्न विषयों पर तथा बाल पुस्तकें प्रकाशित करता है। 100 खंडों में संपूर्ण गांधी वाङ्मय और इस पर आधारित सी.डी. विभाग की एक महत्वपूर्ण उपलब्धि है।

देश तथा देशवासियों के बारे में व्यापक जानकारी देने वाली उपयोगी व ज्ञानवर्धक पुस्तकें हिंदी, अंग्रेजी तथा अन्य भारतीय भाषाओं में उपलब्ध हैं। इसके अतिरिक्त प्रकाशन विभाग हिंदी, अंग्रेजी तथा अन्य भारतीय भाषाओं में पत्रिकाएं भी प्रकाशित करता है।

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- उपग्रह के बाहर-भीतर
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- नोबेल पुरस्कार विजेता महिलाएं
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श्रेष्ठ, रोचक और ज्ञानवर्धक पुस्तकें

प्रकाशन विभाग राष्ट्रीय नेताओं की जीवनियाँ और इतिहास, कला, संस्कृति, विज्ञान, वनस्पति, संदर्भ आदि विभिन्न विषयों पर तथा बाल पुस्तकें प्रकाशित करता है। 100 खंडों में संपूर्ण गांधी वाङ्मय और इस पर आधारित सी.डी. विभाग की एक महत्वपूर्ण उपलब्धि है। देश तथा देशवासियों के बारे में व्यापक जानकारी देने वाली उपयोगी व ज्ञानवर्धक पुस्तकें हिंदी, अंग्रेजी तथा अन्य भारतीय भाषाओं में उपलब्ध हैं। विभाग हिंदी, अंग्रेजी तथा अन्य भारतीय भाषाओं में पत्रिकाएं भी निकालता है।

कुछ महत्वपूर्ण प्रकाशन

- नेताजी संपूर्ण वाङ्मय (खंड 1 से 9)
- बौद्ध धर्म के 2500 वर्ष
- भारतीय स्वतंत्रता आंदोलन का इतिहास (खंड 1 से 4)
- बच्चों के लिए भारत का इतिहास
- अज्ञेता का वैभव
- भारत और मानव संस्कृति (खंड 1 व 2)
- बिहारी सतसई
- योग (सचित्र)
- बुद्ध गाथा
- गालिब के सौ अंदाज
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- लोकगीतों में क्रांतिकारी चेतना
- स्वतंत्रता संग्राम के पच्चीस वर्ष (खंड 1 व 2)

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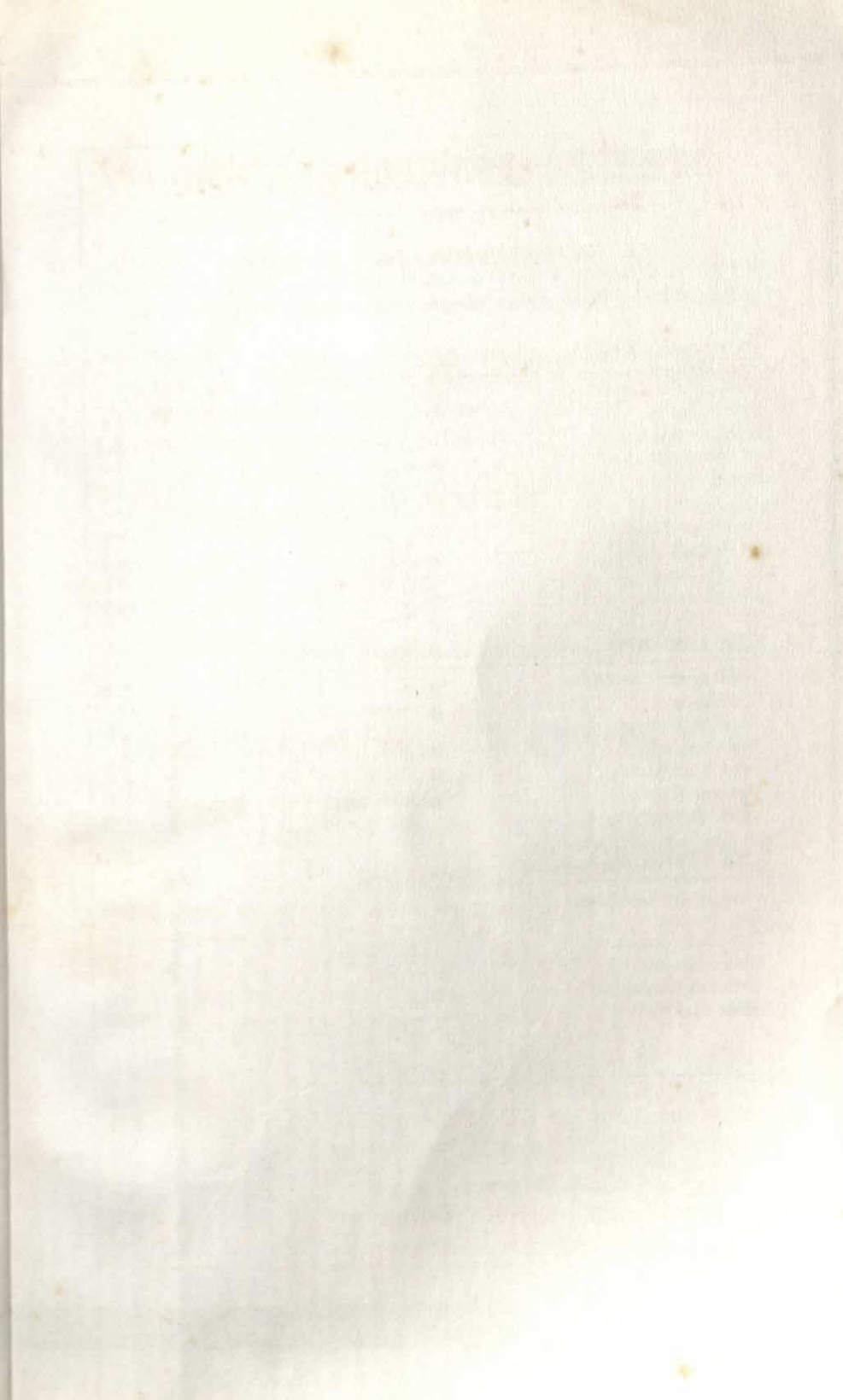
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Dr. Akun Sabharwal	Geography	33rd
Shalin	Geography	35th
Anil Kr. Rai	General Studies, Geography	41st
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